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EUROPEAN RESEARCH IN ARCHITECTURE AND URBANISM

9TH CONGRESS

retroactiveresearch

ARCHITECTURE'S CAPACITY TO CHALLENGE AND EXTEND THE LIMITS OF OTHER DISCIPLINES

ALICANTE * 19/20/21/22 SEPTEMBER 2018

CONGRESS PROCEEDINGS

EURAU18 alicante
RETROACTIVE RESEARCH
CONGRESS PROCEEDINGS

ISBN: 978-84-1302-003-7
DOI: 10.14198/EURAU18alicante

Editor: Javier Sánchez Merina

Titulación de Arquitectura

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EURAU18

European Research in Architecture and Urbanism

EURAU is a network of schools and researchers in Architecture and Urbanism, which meets biannually in a symposium to share their investigations.

EURAU's main concern is to establish these meetings as a place of debate and discussion of contemporary discourses in Architecture, City and Town Planning. This is a committed action organized by University and contributes with the Europe 2020 Strategy towards a smart, sustainable and an inclusive society.

The French Ministry of Culture initiated EURAU in 2004. Since then, a series of international editions have taken place and now with the participation of hundreds of researchers from around the world, it is impossible to stop. The series organized by different Schools of Architecture have been around the following themes:

2004
École Nationale Supérieure d'Architecture de Marseille
"On Doctoral Research"
2005
École Nationale Supérieure d'Architecture et Paysage de Lille
"Large Scale"
2006
Association des Instituts Supérieurs Brussels-Liège-Mons (IESA)
"Cultural Heritage"
2008
Escuela Superior de Arquitectura de la Universidad Politécnica de Madrid
"Cultural Landscape"
2010
Facoltà di Architettura dell'Università degli Studi di Napoli Federico II
"Venustas / Architettura / Mercato / Democrazia"
2012
Faculdade de Arquitectura da Universidade do Porto
"Public Space and Contemporary City"
2014
Faculty of Architecture of the Istanbul Technical University
"Composite Cities"
2016
"Ion Mincu" University of Architecture and Urban Planning in Bucharest
"In Between Scales"

The School of Architecture at Alicante University organizes **EURAU18** with the theme **RETROACTIVE RESEARCH: Architecture's capacity to challenge and extend the limits of other disciplines**.

9TH CONGRESS

RETROACTIVE RESEARCH:
Architecture's capacity to challenge and extend the limits of other disciplines

Keywords:

Architecture Urbanism Uncertainty Serendipity Disciplines Industry Society Hope

> **LEGO** is a game with small plastic blocks that follows a system of perfectly scheduled connections. Although it is intended to build a particular design, it also offers the possibility to place each of its parts in any possible place, inviting us to **construct new realities**.
>
> Manufacturer recommended age: 9 to 99 years.

An interdisciplinary research of architecture is something that society demands from our profession. Furthermore, in many countries that are currently immersed in a recessive economic process, it is the only possible solution.

In that context, it is urgent to clarify the scope of our projects:

Those whose ultimate goal consists of going beyond the limits of other disciplines through the application of architecture. Starting with Architecture's capacity to learn from other disciplines and to follow their guidelines and techniques, we will build and offer new specific tools. With these new tools, our research will provide the opportunity to challenge and expand the boundaries of those original disciplines.

Traditionally, architecture supported itself by various branches of knowledge to advance its proposals:

Economic Changes Social organizations Environmental Crisis and Natural Catastrophes
Structural Knowledge Artistic Trends New Materials Technological Advances
Political positions and Conflicts

While the resulting architectures are excellent examples of applying these areas of knowledge, our interest lies in the reverse process: how the discipline of architecture can cause changes in others. It is an applied research that extends its scope to a prior discourse that originated in the past. That is to say, becomes a Retroactive Research.

In the end, the architectural project is an effective document that not only establishes a program but also defines the author as an entrepreneur, understanding this quality as a position that opens the door to different types of practices that architects can exercise: from running a professional architecture office, to teach, to do interior and furniture design, to write, to design digital scenarios, to work in social associations, to collaborate with research centres...

/ TOPICS

Critical pedagogies

It refers to those practices that focus on the activation of the critical dimension of learning communities. This is done through multidisciplinary approaches, a use of transgressed methodologies and the consideration of ways of teaching as architectural practices in its full rights.

Ecological policies

It refers to those transformations of contemporary culture that affect the architectural project redefining its scope, its capacity of resistance, its laboratorial condition, its techno-affective dimension and its ethical demand.

Material practices

It refers to those perspectives that reconsider the role that matter plays in the proesses of transformation of the world. It pays special attention to its distributed agencies, dynamism and intelligence.

Urban metamaps

It refers to research developed in the area of data visualization and interpretation for the study of cities. The data retrived from visual technologies, such as social networks, web services or other open sources, could shed light on the analysis and diagnosis of diverse urban phenomena.

European urbanization

It refers to people's movement and materials across Europe and its borders as well as the urban processes that movements activate or transform; with an emphasis on how architecture extends and modifies social science research in this are

Citizen-centric smart cities

It refers to reseach aimed at humanizing the iniciatives of smart cities the relates to the citizen as a receiver of actions. Actions that improve quality of life and / or serve to transmit information for planning and designing smart cities.

Sustainable multi-functional landscapes

It refers to research issues related to planning or projects strategies in which landscape has a multi-funcional role as well as meeting sustainaility criteria.

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Learning architecture as an impure discipline

Mental and emotional dimensions of architecture

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Synopsis

Starting from new strains of phenomenology and from recent neuroscience's theories, the paper aims to address the topic of "impurity" of architecture grounded in human "affective space" that modifies the way the world is for us. Specially in the case of urban transformations and mainly in regeneration programs, where it is increasingly manifest a wider requirement and instance for participation by the inhabitants, people's feelings and emotions become something that needs to be taken into account in practicing architecture and planning. Concepts such as "affordance", "atmosphere", "embodiment" and "empathy" become central in our way of experiencing space: along with other concepts such as memory, identity, imagery, they redefine the balance between reflective and pre-reflective domains. This raises questions about how to learn the impurity of architecture, which claims the development of critical devices required to understand biological, psychological and cultural aspects in a more integrated way strictly connected to social practices.

Key words: Impurity, affective space, atmosphere, empathy, critical devices.

1. Effective and affective spaces

As we know, the practice of architecture contains and merges ingredients from many different categories, such as physical facts and cultural beliefs, material technologies and mental intentions, knowledge and dreams, etc. In the last decades, architecture has largely related on theories developed in other fields of research, such as philosophy, environmental psychology, sociology, linguistic, human geography, cognitive science and information technology, just to name a few. Nevertheless, architecture has mainly looked at physical and material aspects, whereas mental and emotional dimensions have been marginalized and regarded as something that is basically private and does not influence the public sphere.

Nowadays we are witnessing an epochal shift, due to both media developments which allow for acquiring information and sharing choices in real time and emerging perspectives of neuroscience which promise a deeper understanding of the mental implications, affects and effects of the space that surrounds us. Specially in the case of urban transformations and mainly in regeneration programs, where it is increasingly manifest a wider requirement and instance for participation by the inhabitants, people's feelings and emotions as well as their awareness become something that needs to be taken into account in practicing architecture and planning, because "to neglect the emotions is to exclude a key set of relations through which lives are lived and societies made"[1]. Urban areas are not just physical – buildings, squares, roads, parks. etc. – they are also "affective" spaces we inhabit: emotional and mental constructions give – or no – meaning to places and shape the fabric of everyday life.

Hence the central research question will be: what is the influence of architecture (particularly in/of public spaces) on our affective sphere and vice versa how our affective sphere intervenes in the fruition of space, in the role we attribute to it, in the developing of imaginative dimension, in the constructing of social relationships? How can a building or an urban space make us feel happy or sad, enthusiast or bored, rooted or alienated? Emotions can deeply "alter the way the world is for us, affecting our sense of both time and space. Our sense of who and what we are is continually (re)shaped by how we feel".[2]

Starting from these considerations, the paper aims to address the topic of "impurity" of architecture[3], grounded in human "affective space"[4] which associates the emotions with all stimuli both internal to the agent and within its environment. Specially with the recent discovery of mirror neurons, we are today more aware of complexity and plasticity of our brain as well as of the close relationship between mind and body, organism and environment, nature and culture. As stated by Francisco Varela, Evan Thompson and Eleanor Rosh (in order a biologist, philosopher and psychologist) in their text "The Embodied Mind" (1991) – a real

[1] Anderson, Kai and Susan J. Smith, 2001. Editorial: emotional geographies. Transaction of the Institute of British Geographers, vol. 26, no. 1, p. 7-10. Royal Geographical Society. ISSN 0020 2754. Also in: Wiley Online Library, first published December 2002. https://doi.org/10.1111/1475-5661.00002.

[2] Sandberg, Linda and Malin Rönnblom, 2016, Planning the new city-emotional reaction and positions, Emotion, Space and Society, vol. 21, November, p. 50-57. Elsevier. ISSN 1755-4586.

[3] In his research, Juhani Pallasmaa has spoken several times about an impurity of architecture. See bibliography.

[4] The concept of "affective space" was pioneered by Hermann Schmitz, starting from: System der Philosophie/3.2. Der Gefühlsraum, 1969, Bonn, Bouvier, and taken over by several authors, e.g. Gernot Böhme and Tonino Griffero.

milestone for the development of cognitive science – the organism both shapes the environmental field and at the same time is continually being shaped by it. It is what they call en- activism which, along with the importance attributed to the embodied sensorimotor activity, helps us to understand the origins of emotion in relation to other individuals as well as to real, lived spaces.

By placing subjects at the center of the research, the paper intends to study the relationship between individuals - as well as groups and communities - and spaces they inhabit. This can be done by guaranteeing centrality to the pre-reflective emotional impact that spatial situations produce on subjects, where for "spatial situation" it is intended the inclusive description of a specific condition, including both the material articulation of space and its intangible qualities that influence the subject's emotional sphere.

2. The affective space in urban transforming processes: a new paradigm

Along with developments in neuroscience, new strains of phenomenology have indicated a new paradigm for the understanding of the subject's experience of the space, in which a wide sphere of emotional resonance becomes important. Concepts such as James Gibson's "affordance", Gernot Böhme's "atmosphere" or Jean-Paul Thibaud's "ambiance" together with "empathy" – which, by linking with the first studies on the subject (T. Lipps, 1905), considers it as an emotional experience of sharing – become central in our way of experiencing space, redefining the balance between reflective and pre-reflective domains and assigning to the latter a far more important role than has long been the case. Along with other concepts, they reclaim to be investigated to provide an alternative way of dealing with the human and social components of urban transformations processes. In this emersion of affective space, some of the main issues that have been central in the late 20th century urban theory, must be reconfigured to embrace these new demands. This concerns, for example, the concept of "memory" that, from Aldo Rossi's classical book *L'architettura della città* (1966) onwards, has mainly concerned its physical and historicized acceptations, while less attention has been paid to its interdisciplinary character which concerns the possibility to develop a theory or better multiple theories of remembering, corresponding to the multiple kinds of memory, starting from the relationship between internal memory and external memory, the latter which tends to be designed to provide highly stable storage in a way that may play a vital role in remembering.[5] In any case, the goal would be to enhance the interaction between architecture or urban fabric or built environment and human embodied-mind to reveal the hidden complexity that escapes rational analyses and measurement.

This raises questions about how to learn the impurity of architecture, which claims the development of critical devices required to understand biological, psychological, cultural aspects in a more integrated way strictly connected to social practices. Regarding this, we can recall some studies aimed at overcoming the traditional opposition between experienced space and designed

[5] See, Michaelian, Kourken and Sutton, John, 2017. "Memory", *The Stanford Encyclopedia of Philosophy [on line]. Library of Congress Catalog Data* (accessed 24 April 2017). Retrived from: https://plato.stanford.edu/archives/sum2017/entries/memory /.

space, such as: the concept of "thirdspace" of Edwars W. Soja where “everything comes together […] subjectivity and objectivity, the abstract and the concrete, the real and the imagined […] mind and body, […] everyday life and unending history”[6]; or the concept of “ambiance” as in Thibaud’s theory, where the goal is to describe “the forms, processes and conditions under which an urban experience occurs”.[7]

We have just begun. The challenge is to develop a type of architecture and urban design conceived as “dynamic approach focusing on sensorial methods of structuring space and time”[8] able, therefore, to include in its process also people’s feelings: as sustained by new phenomenology, feelings don’t live only inside individual consciousness but also “out of us”, embodied in things, spatial contexts and urban situations, thus becoming re-traceable by several subjects even in a historical perspective.

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[8] Thibaud, Jean-Paul, 2015. The Backstage of urban ambiances. When atmospheres pervade everyday experience. Emotion, Space and Society, vol. 15, May, pp. 39-46. Elsevier. ISSN 1755-4586.

Biography

Paola Gregory. Associate Professor in Architectural and Urban Composition at the Politecnico di Torino, Ph.D. in Architecture at the Sapienza Università di Roma, where she is member of the Board of the Doctorate in "Architecture. Theories and Project ", directs her research on two main areas of study : the implications of a “landscape dimension of architecture" and the developments of contemporary architectural thought. Among her main publications:
- P. Gregory, La dimensione paesaggistica dell’architettura nel progetto contemporaneo. L’architettura come metafora del paesaggio, Roma-Bari 1998;
- P. Gregory, New Scapes. Territories of Complexity, Basel 2003;
- P. Gregory, Teorie di architettura contemporanea. Percorsi del postmodernismo, Roma 2010;
- P. Gregory, 7+1 Lezioni di Architettura, Roma 2014;
-P. Gregory (a cura di), Nuovo Realismo/Postmodernismo. Dibattito aperto fra architettura e filosofia, Roma 2016;
- M.L. Barelli, P. Gregory, Light on Vallette,Turin. Urban Regeneration project for the neighborhood's central area, in "Techne", n. 14, dec. 2017, pp. 168-178.

Mary and David Medd's schools

The dissolution of the classroom: architecture for education

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Synopsis

Today's architect is entrusted with giving spatial form to the new ideas on education. From the discussion between philosophy and pedagogy, we learn that it is impossible to develop methodologies without the content intended to be taught. Pedagogy should result of the research that teachers develop on their own teaching. That leads us to specific didactics, rules and methods which serve to learn a certain subject, thus to specific qualified spaces. Since the Modern Movement, design of schools has moved away from the additive configuration of flexible classrooms towards an addition of dissimilar places that students can use for different purposes, depending on the discipline they are learning. The best example of this approach is the work of Mary and David Medd, in post-war England, which serves as a case study. In their built-in variety we find no classrooms, but a single learning unit formed by spaces qualified for different uses.

Key words: Medd, Architecture & Building Branch, Learning spaces, Post-war schools.

1. Introduction: education and architecture. What? Why? How?

"A sense of space comes from breaking down frameworks; from going further, deeper, higher, beyond the imaginable, the manageable, the known, the familiar" (Hertzberger, 2008, p.67). What may be expected of the space that constitutes a school and what conditions can be achieved within the domain of architecture? Today's architect is entrusted with giving spatial form to the new ideas on education.

In order to answer this question, the research focuses on British post-war schools, due to a twofold explanation: the innovations introduced in school typologies and the extensive number of documents that allow to verify the results of the experience. Firstly, the theoretical framework is presented. Subsequently, it is applied to the field of construction through a comparative analysis of typologies from the Modern Movement onwards. Finally, the case-study, Mary and David Medd´s schools, is analysed.

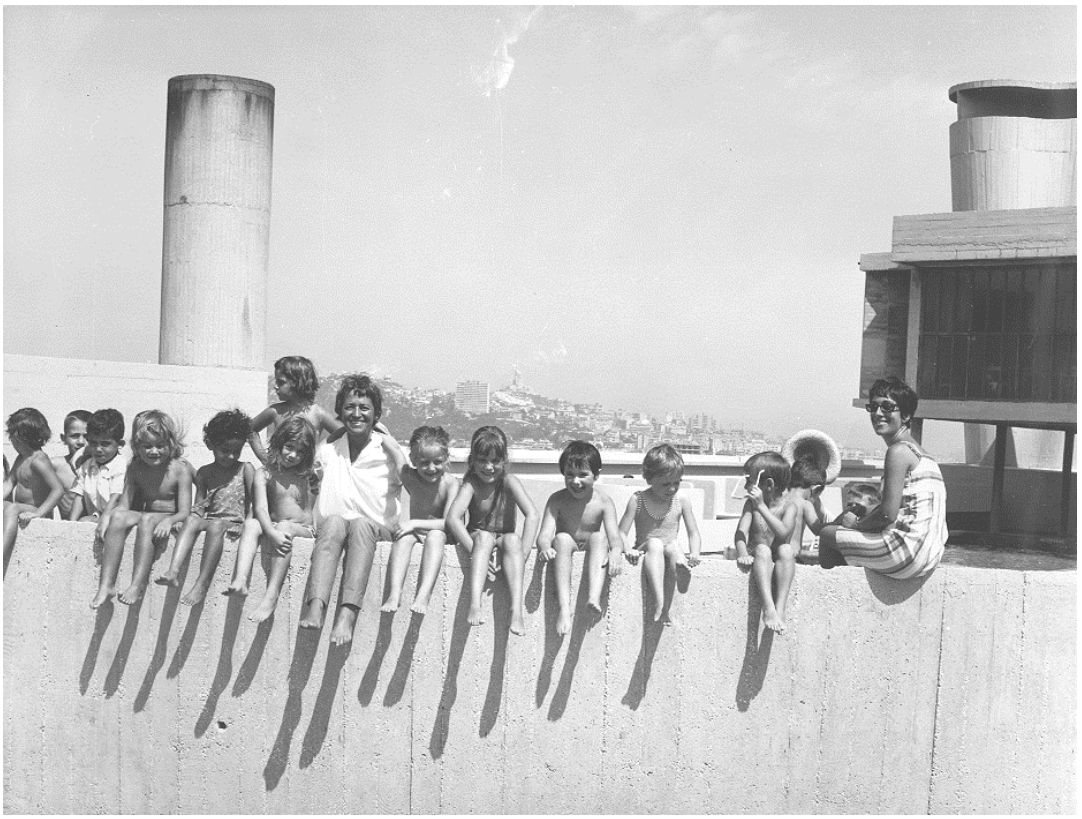

Figure 1. "Le mur de la mort". Les Maternelles. L´ Unité d´habitation de Marselle. Le Corbusier. Fondation Le Corbusier. L1-11-33-001) ©FLC-ADAGP

2. Pedagogy or philosophy: specific didactics

In order to build the new ideas that architecture should take into account when it comes to learning spaces, we should attend to the discussion between pedagogy and philosophy. According to Fernández Liria, philosophy is based on the powerful pedagogical spring of knowledge for the love of knowledge, while pedagogy seeks psychological, playful or emotional incentives to get students interested in knowledge (2017, p. 316). "It's as if there's no way to learn anything for your own intrinsic interest, so you always have to enable a kind of

bait to bite the hook" (Liria, 2017, p. 320). Hence, pedagogy focuses on learning methodologies, which are conveyed to future teachers by experts who teach how to teach.

However, authors like Walter Benjamin have pointed the fundamental sameness of form and content[1]. From his ideas, it would be impossible to develop methodologies without the content that is intended to be taught. Pedagogy should result, as proposed by Lawrence Stenhouse[2], of the systematic research that teachers develop on their own teaching. The pedagogues must be the teachers themselves, because they are immersed in the context where the act of teaching takes place and they don't separate their way of teaching from the content to be conveyed (Liria, 2017, p. 313).

Figure 2. Montessori School in Delft. 1968.
Lüchinger, A. (1987). *Herman Hertzberger 1959-86, Bauten and Projekte/ Buildings and Projects/ Bâtiments et projects.* (Arch-Edition, Ed.). Den Haag.

This is where specific didactics arise: rules and methods which serve to learn a certain subject. We must recognize that architectural design cannot be taught in the same way as differential equations. Therefore, they should not be explained in the same space.

3. Didactics in architecture: schools without classrooms

There are many architectural experiences that have addressed the problem of learning spaces, from the German Hans Scharoun[3] to the extensive school building of the Dutch Herman Hertzberger[4]. Since the Second World War, the design of schools has moved away from the additive configuration of flexible classrooms towards a configuration of dissimilar places that students can use for different purposes, depending on the discipline they are learning.

[1] In Berlin Chidhood around 1900, Walter Benjamin explains how he tested this idea (Benjamin, 2010, pp. 226-227)
[2] Lawrence Stenhouse (1926-1982), British pedagogue who promoted the active role of teachers in curricular research.
[3] Darmstad School (1955)
[4] Montessori School in Delft (1960) or Apollo Schools in Amsterdam (1980). In his book, *Space and Learning*, Hertzberger explains the spatial articulation in the design of schools

The use is determined by the users themselves, who in certain active methodologies, such as the Montessori, move around the building, facing work according to their own interests.

Architecture for learning spaces, from the Modern Movement onwards, has not evolved towards the construction of a more homogeneous space, but, on the contrary, towards the qualification of different places, resulting in a heterogeneous space that the student travels in its whole. In short, the classrooms have ceased to function as space-for-everything, in an application of specific didactics to architecture. There are no classrooms or methodologies that serve everything: “beware of false neutrality, beware of the glove that fits all hands and therefore becomes no hand” (van Eyck, 2008, p. 341).

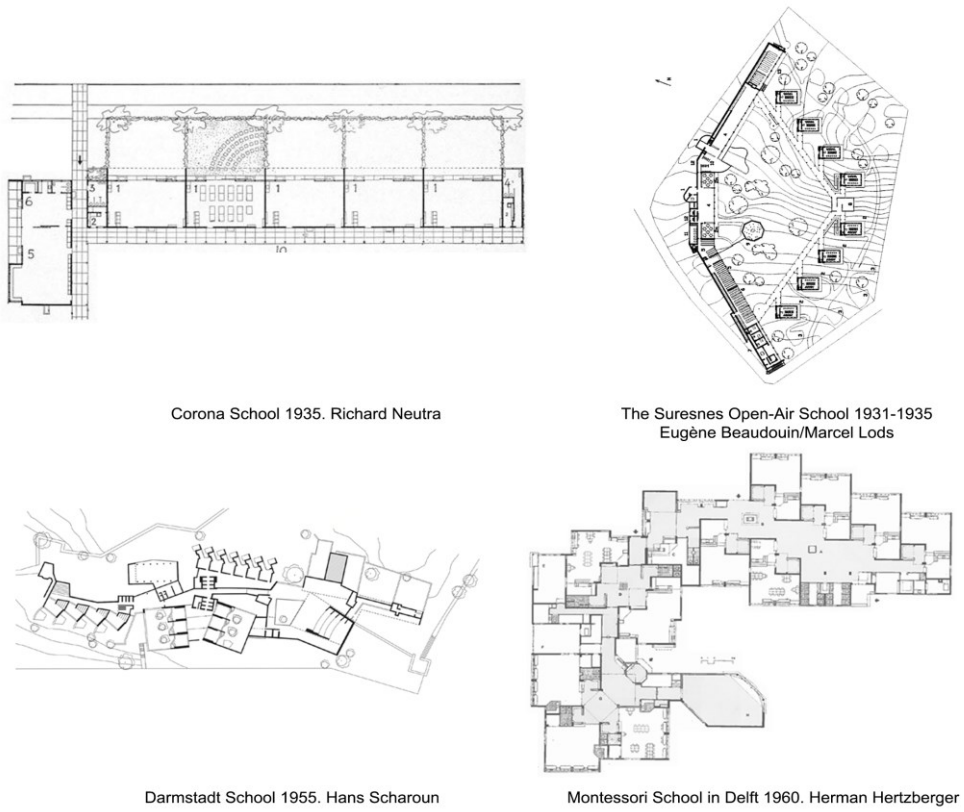

Figure 3. Evolution of school typologies.
1. Corona School 1935: http://etsavega.net/dibex/Neutra_Emerson-e.htm
2. The Suresnes Open-Air School 1931-1935. Eugène Beaudoin/Marcel Lods.
http://www.architectureofearlychildhood.com/2011/05/open-air-schools-in-europe.html
3. Darmstadt School 1955. Hans Scharoun. Sentieri, C. y Verdejo, E. (2017). Las escuelas de Hans Scharoun versus la escuela finlandesa en Saunalahti [Plano].
4. Montessori School in Delft 1960. Herman Hertzberger. Lüchinger, A. (1987). Herman Hertzberger 1959-86, Bauten and Projekte/ Buildings and Projects/ Bâtiments et projects. (Arch-Edition, Ed.). Den Haag.

Thus, a school ceases to be a building formed by classrooms to become a large set of places. It is the student, not the teacher, who goes through a se-ries of rooms that meet the specific demands of each discipline of knowledge. That it exactly what happens in the schools by Mary and David Medd.

4. Mary and David Medd, a case study

After World War II, a series of anonymous documents, known as the Building Bulletins, described the design and management process of UK schools. Mary and David Medd were the architects responsible for the construction of what were called Development Projects, public schools built by the Ministry of Education from a collective exchange, on education and architecture, among professionals from various disciplines. The pedagogical system was developed at the same time as the educational spaces.

The Medd introduced in their language a term known as built-in variety to describe how to approach the architectural solution. This strategy moved away from the concept of the classroom and sought the creation of spaces (planning ingredients), different in size and form within a global set, that allowed the development of activities of diverse nature. The architects believed that the variety within the school would break with the homogeneity, typical of schools formed by serialized classrooms, and would oblige users to interact and build their own learning space.

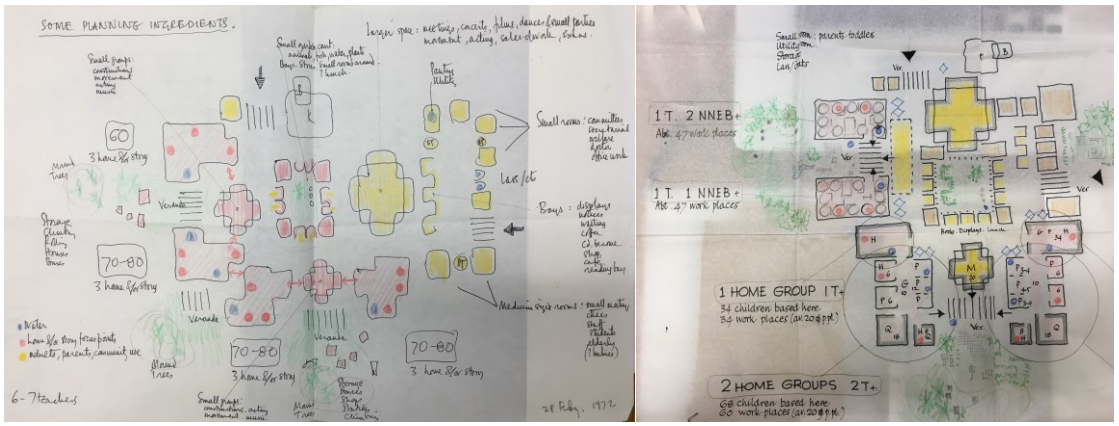

Figure 4. Mary Medd´s sketches.
Medd, M. (1971). David & Mary Medd Collection, ME/E/18/5, Institute of Education, Londres.

This conception of space by parts encourages the articulation of uses that, while remaining with different spaces, form part of a closed unit. It is a composition, as described by Anton Capitel (Capitel, 2009, p. 64), typical of British domestic architecture. This concept can be studied in Finmere Primary School (1959-59), a rural school in the county of Oxfordshire, which subdivides the school into two groups (infant and junior) formed by spaces of different sizes and with different conditions. Some places are defined as alcoves with facilities and services such as a stove, a sink, a bench, pieces of furniture for small groups, etc. Other spaces are workshops, reading rooms, a library and a hall as a common space shared by all.

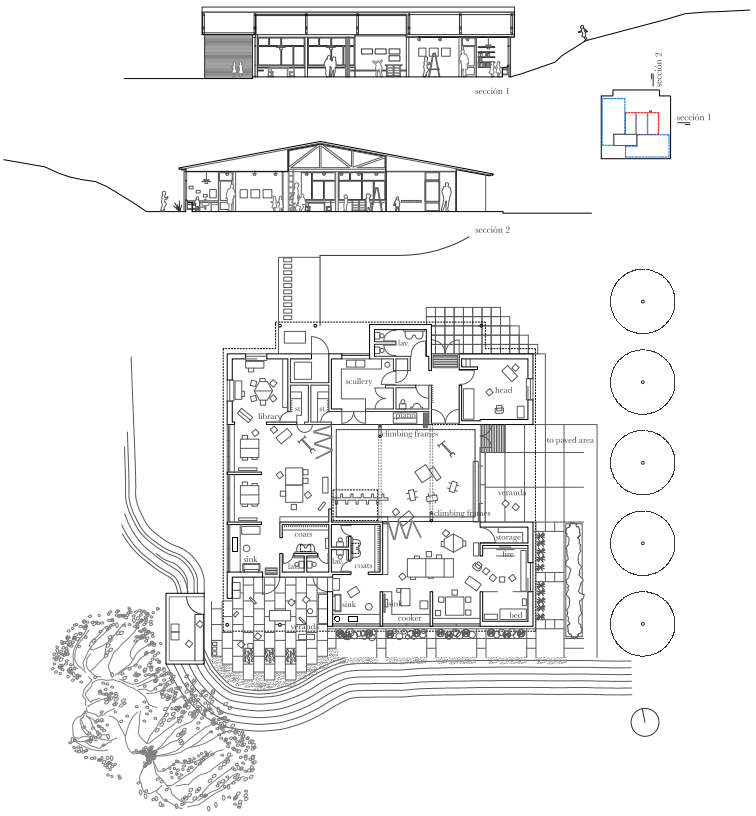

Figure 5. Finmere Primary School (1958-59). Redrawn plans and sections by authors.

The same principles could be found in other projects such as Woodside Junior School or Eveline Lowe Primary School. In all of them, the traditional classroom concept is broken and replaced by a big single learning space.

5. Conclusions

The schools built by David and Mary Medd during the 20th century show that the dissolution of the classroom could be a response to the educational problems of the present. When approached from a comparative analysis with the examples mentioned previously, according to structural principles, Medd's proposals differ in walking away from the division of students in closed groups shut in separate classrooms. The comparison enlightens the spatial characteristics of the Development Projects and their innovative principles.

In its built-in variety, against the concept of serialized classrooms, we find a variety of spaces qualified for different uses. It will be the student himself who moves to the place that best suits the activity he will be carrying out. This participation induces the imagination, so the student will take an active role, deciding on what, where, when and how he does his work. Conversely, they present features, from the architectural point of view, that favour the application of active pedagogical methodologies.

Figure 6. Bay-window in Finmere. Bay-window in Finmere Primary School.
David & Mary Medd Collection, Institute of Education, London. ME_Z_5_2_150_3252

Figure 7. A single learning space. Finmere Primary School.
David & Mary Medd Collection, Institute of Education, London. ME_Z_5_2_150_3242

The spatial innovation of the case study shows how architecture can extend the limits of education, and vice versa. In addition, it underlines the importance of a collaboration of professionals from different backgrounds, since it will only be possible to design suitable, specific places for specific taught contents, as long as an interdisciplinary work is fostered.

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Biography

Paula Lacomba Montes. Graduated in architecture after studies in the School of Architecture of Valencia and the Technische Universiteit Eindhoven (The Netherlands). In 2014, she registered as a doctoral student in the Department of Architectural Design and was awarded a scholarship (from Ministerio de Educación, Cultura y Deporte) to develop her PhD thesis and teach Architectural Design. Her research focuses on primary learning spaces built within an interdisciplinary experience developed in Great Britain after the Second World War. She took part in the International Congresses “LC2015”, “EGA 2018”, and has written articles in scientific journals such as Zarch and Revista 180. She has realized a scientific stay in the Institute of Education, University College London and during 2018 she has carried out a research stay in the Faculty of Education, University of Cambridge, UK..

Alejandro Campos Uribe. Graduated in architecture after studies in the School of Architecture of Valencia and the Technische Universiteit Eindhoven (The Netherlands). In 2014, he registered as a doctoral student in the Department of Architectural Design and was awarded a scholarship (from Conselleria d'Educació, Investigació, Cultura i Esport) to develop his PhD thesis and teach Architectural Design. His research focuses on the three houses designed and inhabited by the Dutch architect Aldo van Eyck, as a source for his design strategies. He took part in the International Congresses “LC2015”, "EGA 2018", and has written articles in scientific journals such as Zarch, rita_ or Revista180. He has been awarded the Extraordinary Honor Prize in 2017..

Into the immensity of otherness

The philosophy of between and the body of the architectural uncertainty

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Synopsis

The human being, attempting to find certainties and escape from the existential abyss, separates the world into antonyms. Over and above the binary logic, the paper approximates how the *philosophy of between* contrives the architecture of *interstitial thought*, and how this architectural approach reshapes the limits of Humanities. This retroactive disciplinary movement appears mediated by the body and corporeal images, as the projective metaphors evoke the reality and become part of it.
A variety of philosophical notions, considered as interdisciplinary thinking tools, is used to approach the architectural uncertainty: *transindividuality* emerges as an operation at a suprastant level for a dynamic association of otherness; the *deleuzian fold* prioritizes relation, than dualities, and promotes *serendipity states*: a sense of epiphany and an impression of unforced creative process where things occur naturally. As life and architecture draw the lines in-between dipoles, in the contemporary *liquid* era of the *fuzzy* limits, the *interstitial* space is of principal concern.

Key words: Dipole, body, otherness, in-between, transindividuality.

The meaning of architecture, from its origin, is impregnated with uncertainties, without being able to elaborate a stable definition of what really architecture is. In contemporary tradition, modern architectural manifests have aspired to install theoretical foundations in an universal consensus and certainty. Till the decade of 50´s, the interest has been transitioned from the ideal human to common individual, overcoming Le Corbusier's modulor. The visions of architecture have been transformed even more radically; from notions of supreme demiurge to utopian imaginations and then to super-star artifacts. Architecture in contemporaneity returns to its original state: as facilitator of tools between different structures; as a link between its inhabitants; as a channel in-between diverse visions.

As architecture proposes systems that are not, and can never be completed, generates frames based on constant discovery and not on prior prescription. The architectural thought is not oriented only in the composition of the built environment; architecture constitutes a structure of thinking, a stratified, organized conformation of the reality. Thus, the architectural practice is compounded of ideation or cogitation tools of other disciplines that provide a continuous feedback. This paper explores the elementary notions of the shift between *binary thinking* and the *philosophy of between* and its effects on architecture in a perpetual retroactive nourishment.

The world and all constructed space are explained from a dual architecture, as a result of binary thinking -of framing issues on opposites-. (Elbow, 1993;23-51) Although duality is a phenomenological undeniable paradigm in nature, Lévi Strauss argues that any dualistic classification of the world is more complex than it may appear. Comford suggests that the prototype of all opposition can be sized down to binary sex assignments, while Burnet proposes a world in a cyclic repetition. (Comford, 1956;68)

The question of the body is transcendental in duality; it has been considered that the mind is extensive in itself, without any limits can foresee possible futures, but above all, it can be liberated from the body. Nevertheless, there is a close relationship between the lived experience and abstract theorization. The corporeal image constitutes the foundation of the entire configurative expression, whose mediating faculty evokes the reality, while it is becoming part of the existential identity (Pallasmaa, 2014;46). It is an integral part of the encounter between environment and body, as architectural-projective metaphor and as pattern that permit penetrate the experiences of the other.

A theme emerges and returns with constancy in the duality body-mind; the otherness. The human body due to its plasticity, material and immaterial, is reborn through conscious action, sometimes by archetypal forms or by proto-genetic, exceptional and extraordinary forms. This set of elements contributes to the emergence of novel tools, approaches and languages, which install the subjective, intersubjective and transubjective experimentation (Alcázar, 2016;11). The human corporeity beyond than a simple personalized individual entity, makes sense as collective body, connecting the embodied conditions of the others. When the encounter of the bodies really happens, under conditions of heterogeneity and not

of constitutive otherness, then an action of freedom is produced.

The deleuzian fold, in this sense, is a politics of liberation that guarantees the possibility to think and operate on given heterogeneity, providing new senses: to arouse constituent bodies sustained by the desire of the *transindividuality*. (Markoulatos, 2007;42) The *transindividuality* indicates a double movement; the *co-existence* at a pre-individual level, and the collective actions. It is a *meta-stable* system that aniquilates the psychic and collective individualization, interweaving relationships that are *co-composed* between individuals and society, excluding the substancialization of one or the other. (Mpartsidis, 2014;35)

The human being is a relationship. It is related to a You and it is related to an It. (Buber, 1984;8) In the relation with the environment, the primordial word *I-It appears as an isolated being and acquires self-consciousness as a subject*. In the relationship with the other, the *I-You appears as a person and acquires self-awareness as an objectivity*. (Díaz, 1990;19) The real encounter occurs when there is no mediation; it happens in the "sphere of the between", that goes beyond individualism and collectivism; it is the real place of the interhuman occurrences.

The *Philosophy of Between* focus on entrity (Arancibia, 2010;28-30) and not on *entity*. Its history goes from the theories of Heraclitus, to the *Khora* of Plato, to Hegel's *mediation*, Deleuze's *threshold theory*, the *Logic of Being* and *of Between of Desmond*, Foucault's *space of the between and the Intermediate World of Sloterdijk*. What is *between* things allows them to relate and therefore they exist. The significant element is the non-object: *which is too fuzzy-vague-diffuse-evanescent to allow itself to be immobilized and isolated; that it is neither assignable nor representable* (Jullien, 2008;24-25) The *interstitial thought* rejects the rigid and stable structures and focuses on what is flexible. The essential is the process itself; the moments in which the transformations happen, when things are in maximum potentiality.

A line of architects of XX century, activist and active collectives focus on the Philosophy of Between. Camilo Sitte, Christopher Alexander and Serge Ivan Chermayeff consider important what is situated between the buildings, Alison and Peter Smithson examine the Interval and the *Philosophy of Threshold* and Aldo van Eyck considers architecture as the configuration of the *In-Between*. Robert Venturi describes the space between opposites and contradiction, Bernard Tschumi presents *the unclassifiable* or *unprogrammed spaces* that arise when the pairs of opposites are in conflict, Eisenman focuses on the *processes of interstitiality* as a new concept of *spatiality* and Colin Rowe on the vacuum as dynamic element.

The *liquid* contemporary condition navigates without a point of reference; living *in-between*, among a multiplicity of places, in the interstices. (Bauman, 2006;169) Being *in-between* privileges the humans with an holistic vision of social structures and of themselves. The "*Between*" is the place where the discovery is hidden, where innovation is located. What has no name is what exists hidden among the categories that define the known.

To approach *interstitial thought*, to design from the *Between*, there is the technique of *wu wei*: the strategy of *not acting*.(Jullien, 2007) It does not refer adopting a passive attitude, but letting things happen naturally.This lead to the fifth kind of ambiguity, to a fortunate confusion, (Empson, 1949;2) to a creation from states of epiphany or serendipity. Evaluating and trusting in *silent transformations* is letting things to be done on their own, to mature naturally.

Life appears as something indeterminate, full of potentialities. The indeterminacy of the in-between is a way of designing architecture, experimenting serendipity, embodying a liquid life, connecting with the Otherness. Architecture draws the lines *in-between* opposites and the way of oscillating between them defines the way of living and creating.

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Biography

Magdalini Grigoriadou. Architect (2007) by the University of Thessaloniki (Greece), with a Master's Degree (2008) in Digital Communication and Multimedia in Architectural Project, and a PhD (2014) by the Polytechnic University of Madrid. Her research focuses on the concept of the imaginary, collective or personal, through the evolution of the notions of space, time and body.
Since 2012 she has been part of the research group Hypermedia: Architecture Configuration Workshop, and GILAVE group as an external collaborator of the Complutense University of Madrid. In her professional career, she has participated as an active member between 2011 and 2013 in the collective Todo por la Praxis. In her postdoctoral research, (Sept.2016-Sept.2017) Sparágmata: incoherent fragments of vulnerable bodies in a multidimensional city, in Mexico City, the aim has been to explore the experience of nostos/nostalgia and otherness within the contemporary conception of the fragmented body.

Efi Giannopoulou. Architect D.U.Thrace, Greece (2005), International Mention Doctor in Architecture (thesis titled: BETWEEN: Suddenly, Without End, The Unnamable) of the E.T.S.A.M (2016), forms her researcher lines while follows the concept of Between, as a place and as a process in between disciplines, spaces and states. Has participated in national and international congresses, conferences, publications and pedagogic projects, with papers and strategies related to the use of new technologies in the reanimation of urban life and the architectural creative process. Participant in various collective exhibition with game, video and installations, develops her architectural profession in public and private sector.

Soft Networks and Emergent Topographies

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Synopsis

Research focuses on mapping of liminal space along the Buffer Zone of Nicosia and its emerging urban identity that is revealed through documentation of inhabitation patterns over time.
The process of seeing activities from the ground, through mapping and collage, expose the complex and often-invisible layers of information that exist. These processes of re-reading extend and enrich our interaction with the specific conditions of the site; the slow and seemingly insignificant and 'unseen' organic evolution of the site is acknowledged as a strong part of its identity.
Based on premise that transformation of space provokes public action, the investigation is concerned with the search for emerging and shifting topographies. Research establishes mechanisms for discovery spaces of transformation these exist at the level of landscape, and very particular conditions of forgotten edges and points of contact with the urban environment.

Key words: Mapping, Mutation, Buffer Zone, Soft Network, Architectural Pedagogy.

1. Mapping Liminal Space

The research focuses on mapping of Liminal Space along the Buffer Zone in the old city of Nicosia (Fig. 1) through fieldwork research carried out, and its emerging urban identity that is revealed through documentation of its inhabitation patterns over time. The process of seeing activities from the ground act as a tool for reconstructing how we define and reinterpret this site.

The significance of this research methodology lies in the deconstruction of the site through the use of mapping (Fig.3), cataloguing (Fig. 2) and collage (Fig. 4) as an active form of thinking rather than a passive process of representation that allows for a new site to be discovered, giving multiple opportunities for adaptive urban strategies and socially engaged design approaches.

This analysis is used as a tool to build on what is already on site for “creating a Place identity and Social Continuity over time”. This methodology provides a new reading of the city, which allows us to negotiate spaces of conflict. We seek to discuss and explore further potential conditions that arise and see them as an urban opportunity.

Figure 1.

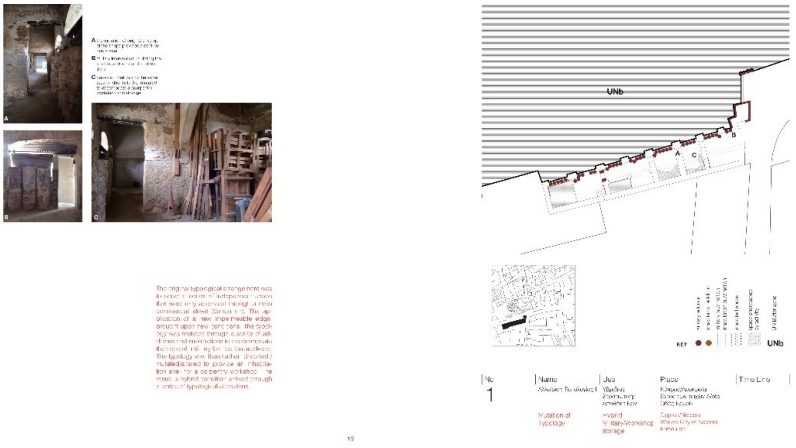

Figure 2.

2. Nonlinear Process

Unit 6 works in a nonlinear pedagogical process. We work simultaneously with different media that allow students to enrich their research, as they focus on different aspects of the site.

The complexity of conditions that we are searching for, often relegated to the status of ‘accidents’ or ‘boundary conditions’, are those which produce a rich environment of alternative narratives of urbanity. In the same way, the non-linearity of the change of medium is seen to unveil similar possibilities.

We start by collecting information about the site, searching for the small-scale urban conditions in the format of cataloguing. Subsequently, drawing them in the form of mapping becomes the way of connecting to place and indirectly making sense of that place. Mapping (Fig. 3) is simultaneously the process of searching for and contributing to the urban quality, essentially making invisible (relations) visible through this process. The technique of Collage is introduced as an assembly of the various fragments previously explored as a method of bringing new meaning and relations through the process of re-combining visual data and images.

3. Hybridity

We introduced the notion of Hybrid as a particular condition that we are looking for. The point at which urban qualities overlap is of interest to us, creating points or sites of intensity and often contestation. We identify these instances of intensity as sites of opportunity or hybridity.

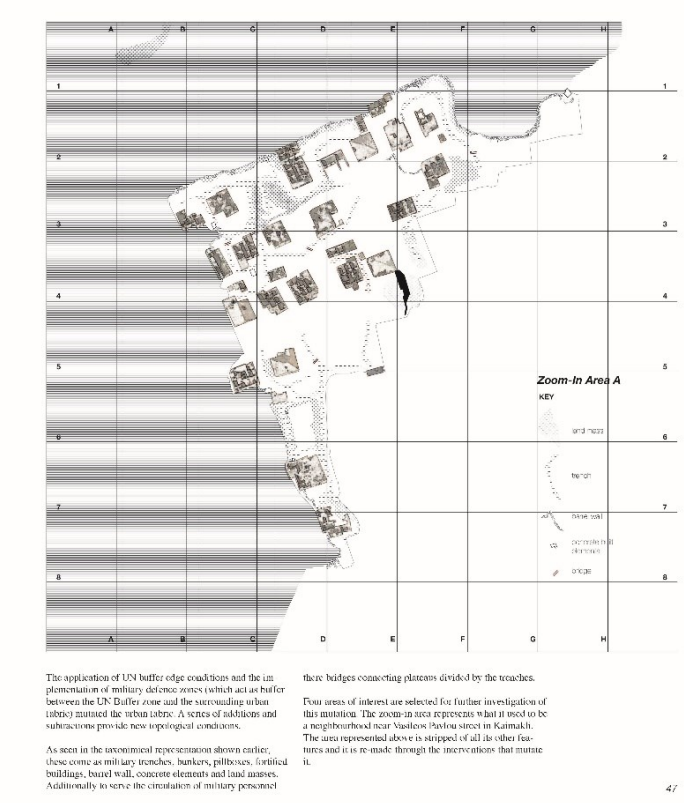

Figure 3.

Searching for Hybrid states (Fig. 5) on the site assist us in going on to identify similar characteristics of 'fusion' through spatial, material and programmatic explorations at a later stage. Hybridity, which may have been generated out of intolerance is explored for potential opportunities. Subsequently what is sought after is a new state, which allows coexistence between various conditions and identities.

4. Site investigation

The edges of both sides of the buffer zone are examined. Penetrations and mutation (Fig. 4) of the buffer edge are identified in terms of how they affect the urban space of the city of Nicosia. Studying the relationship along this discarded and forgotten edge of the green line and the adjacent urban environment, creates a shift of focus from the built infrastructure to the soft network of multiple and complex relations of dependence and autonomy of public actors. Activities are understood in terms of their temporal and spatial structure and then seen as opportunities for change or points transformation.

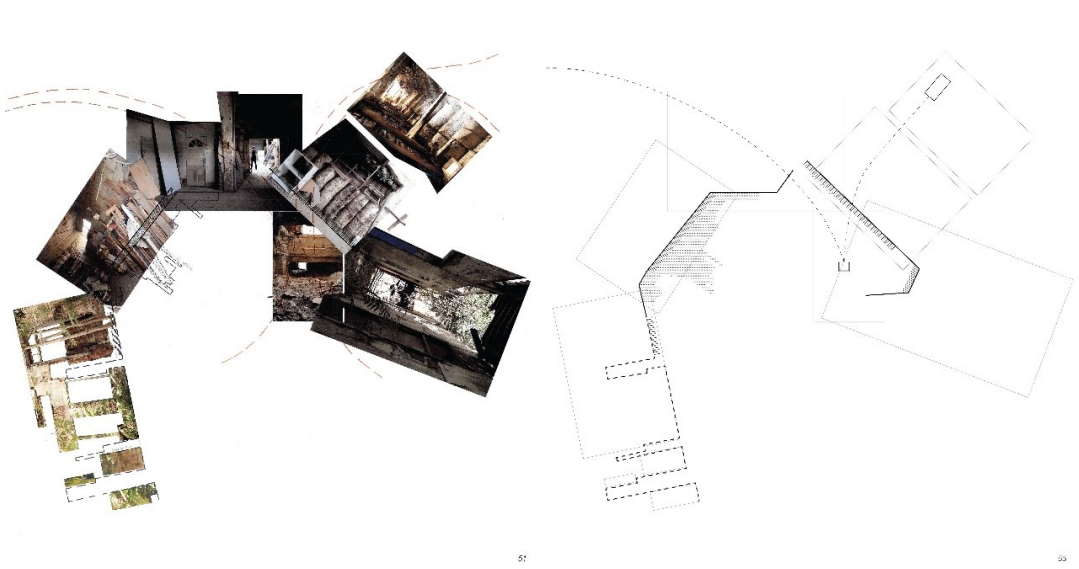

Figure 4.

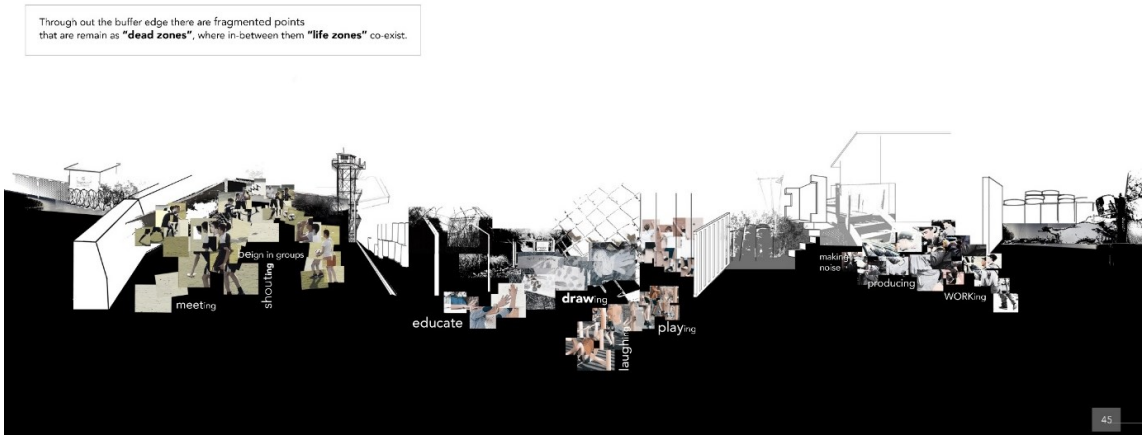

Figure 5.

5. Porosity Engrained in Resilient Boundaries

Perceiving the site through this study, we find users and activities that are excluded from the official public spaces and find their place and expression in the loosely defined edges of the buffer zone. By identifying the latent qualities of the site, we were able to recognise the potential of these existing environments by finding opportunities in the emergent topography.

This emergent topography of the buffer zone is manifested through a series of additions and subtractions, often where military fortifications meet domestic spaces. The seemingly strict buffer edge is seen to take different forms masking, exten¬ding and penetration the architec¬tural shell as well as the surrounding landscape resulting in a mutation of the edge (Fig. 4). Organic appropriation begins to shape and mutate the existing environ¬ment; these conditions create opportunity for small-scale public activity and mechanisms for urban transformation.

5.1. ‘Life’ within the ‘Dead Zone’

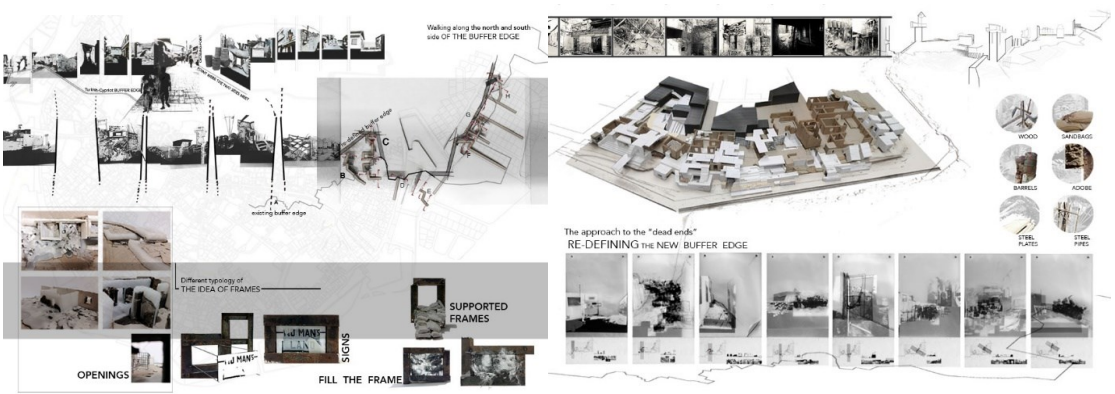

Figure 6.

The project’s main purpose was determined due the discovery of existing fragments of ‘Life’ within the ‘Dead Zone’ (Fig.6) in the city of Nicosia. The discarded and forgotten edge of the green line began to take a new meaning when mappings explored how the site was informally and accidentally inhabited. The documentation of the new penetrable edge enabled the possibility of inserting multiple entry paths within the buffer zone. The collage was the main tool of investigation of this sequential movement penetration. The urban intervention had three strategies: the edge of the buffer zone, building on the porosity and permeability of the path. Communal activities initiate the re-use of the derelict buildings that maintain their architectural character and host small-scale communal areas.

5.2. Negotiating the Edge

An initial mapping investigating the user’s awareness of the buffer edge identified conditions of intense urban tension at various points along the buffer edge. Absence of transitional space imposed a forced negotiation between the two edges of the liminal zone. The project (Fig. 7) proposes a new system that

can respond to the needs of the city in relation to possible future scenarios of possible political shifts.

Consisting of the two proposed edges, the system can operate as a strict or permeable boundary according to the needs of the future. The proposing strategies of the two edges are created either by enhancing or reversing the pre-existing states. The transformation of the conditions within the two edges are achieved through expandable structures permitting shrinking or expanding of the boundaries of the buffer zone, under a continuous negotiation between the inhabitants of Nicosia and the authority of the United Nations.

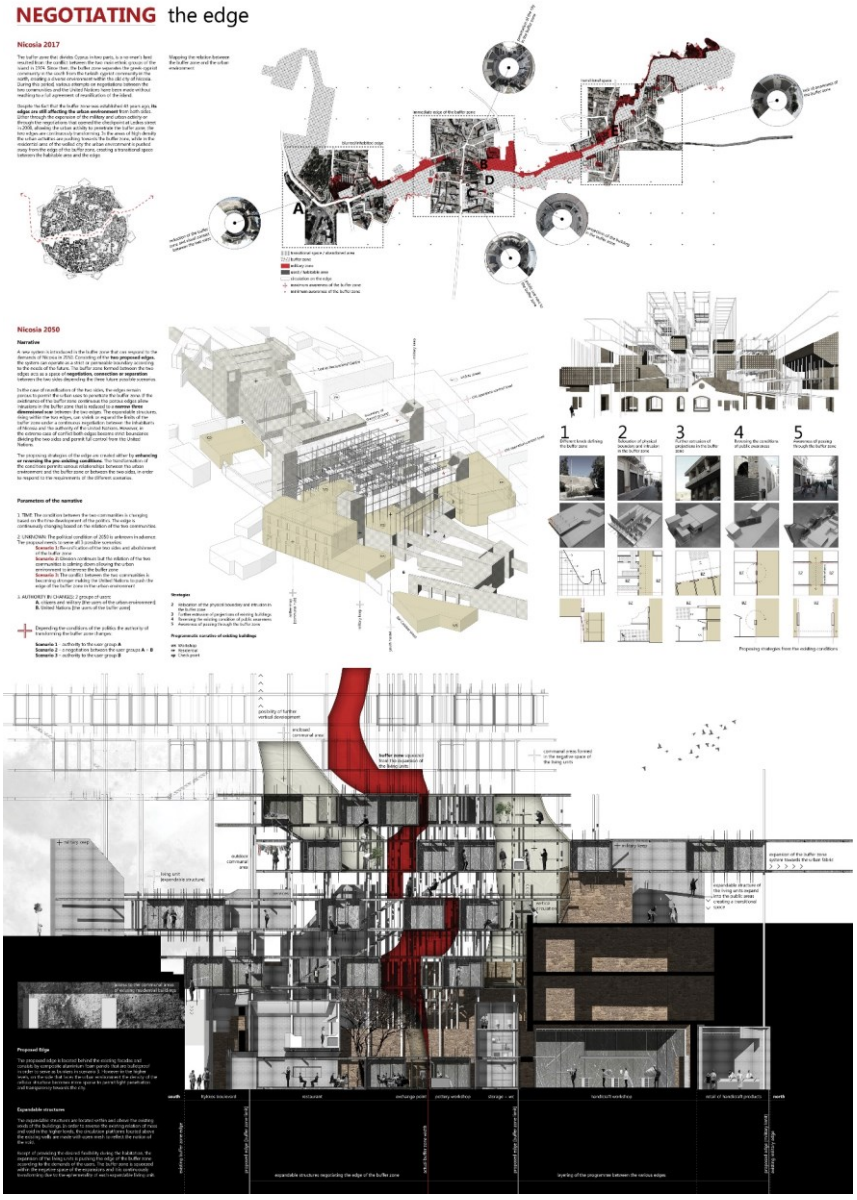

Figure 7.

6. Conclusion

Research projects and design proposals follow a bottom up methodology. Projects are defined by openness in their spatial organisation, materiality and

operation. Proposals draw upon these elements in order to construct alternative modes of occupation.

The openness of the investigations towards the evolution of sites and spaces over time, determines our design approach and eventually the kind of architecture we produce. Proposals investigate how existing organic hybrids can become manifest through “Intentional hybrids” which are then proposed as interventions in the contested urban site, generating a new contemporary urban possibility.

The significance of this research methodology lies in the use of mapping as an active form of thinking rather than a passive process of representation that allows for a new site to be discovered, giving multiple opportunities for adaptive urban strategies and socially engaged design approaches.

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Biography

Maria Hadjisoteriou. Associate Professor of the Department of Architecture, University of Nicosia. She received her Dip-Arch from N.T.U.A., Greece, and her Master in Engineering from Mie University in Japan where she was a Monbusho scholar. Maria's main focus is "research by design"; therefore parallel to her academic involvement, she has been a practicing architect since 1995. Maria has received a number of awards in local and international architectural competitions. Her current research interests include: Mapping as a design methodology, issues of perception with a focus on intangible qualities in architecture and social sustainability in an urban context.

Angela Kyriacou-Petrou. Assistant Professor in the Architecture Department at the University of Nicosia. She completed her architecture education in London, where she was born and lived until 2001. Practice work has involved an extensive range of projects and scales, in both London and Nicosia, including; Competitions, Independent practice, Project Management and Interdisciplinary design Collaborations She began teaching in 1996 at Kingston University and Southbank University in London. She subsequently taught as adjunct faculty at the University of Cyprus from 2006, joining the University of Nicosia in 2010. Research interests are focused on Theories and methods of archiving rural and city histories and activities particularly in how maps define public spatial relationships. Research work tries to identify data exploration as a process over data presentation as a product. Particular attention is given to rural land use and spatial practices of the Ottoman period in Cyprus.

Please, teacher, don’t give me freedom

Contortionist pedagogies, Un-learning critical practices in architecture

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Synopsis

It seems now that students are afraid of taking decisions, of being free to decide. The problem it is not the university teaching method, but kindergarten and the school, society and education trends. Not training emotional abilities means we, professors of architecture, receive soldiers. Used to follow rules, not to decide. They suffer creating. And we try to motivate, turning everything upside down, making circus strategies and contortionist movements to make them committed and involved with the architectural project.
Our proposal has the aim to open a dialogue among professors. The hypothesis is to implement a methodology of learning in a way that we un-learn, change emotional responses, focused on having fun. The idea is to implement freedom in pedagogical methodologies. We try to make contortionist pedagogies, deforming and depicting old ways to learn, to make room for new critical practices used in the context of freedom.

Key words: Freedom, Un-learning, Pedagogies, Emotions, Critical learning.

1. Introduction

When playing twister, you must decide in which colour you put your foot, your hand, but no time to decide or you may fall. Tension and balance makes you take a decision. You are free to decide.

There seems to be a lack of commitment and intense production during past years in the school of architecture. Students seem not to be worried about design subjects, not being completely focused or involved in the task, and teachers find ourselves very often with the necessity of making an extra effort to motivate, to encourage, to provoke, or to define for them the project, the design. We believe that this worrisome question is related mainly to the personal affective situation of each student. The number of students of architecture that start going to visit a psychologist is increasing.

We are not sure whether teaching is a product or a process, but It should clearly indicate its constitutional elements, strategies, organizational and structural aspects. Pedagogy should reveal its objectives. Nevertheless, this issue has nothing to do with emotion and the affective side of the student. There is usually a lack of this sensible aspect, which in our opinion constitutes a solid background of the creative process.

2. State of Art

"Teaching is even more difficult than learning" (Heidegger, 1971, 20)

There is a tradition and an extended state of the art about what creativity is and how it should be addressed through learning processes. One of the first well-known attempt to conceptualize the creative process was by Wallas in 1926, although he did not identify specific processes, he articulated a four stages model about design thinking. This was structured within a sequenced linear protocol: preparation, incubation, illumination and verification. Therefore, in the second one, thoughts are supposed to roam in a free-ranging way. It is here that affective processes may play an especially important role. We don't practise with our students creativity pedagogies through linear processes; these four Wallas stages are usually subverted in our classroom.

One important issue is that of understand creativity as a scientific process, where a problem finding must be identified on an early stage (Arlin, 1986; Getzels & Csikszentmihalyi, 1976). Esta cuestión de reducir el proceso creativo a una resolución lógica deductiva afecta enormemente a los tanteos exploratorios que el estudiante, libremente, opera sobre el proyecto. A deep discussion of this issue can be found in Armbruster (1989).

We know a big deal about cognitive elements of the creative process, but we are just beginning to learn about the affective components of the creative process (Walker 1993: 9). The major question afforded on this paper is about fear on creativity process, and how these mechanisms involved in creativity are activated to defeat psychological block.

Sandra Walker's (1993) *Affect and creativity: The Role of Affect and Play in the Creative Process* describes some clues about the role of *affect and cognitive-affective duality* on interaction within children's play. *The Creative*

Process: Reflections on the Invention in the Arts and Sciences by Brewster Ghiselin is an anthology of literature that matches with some concepts explained in this text.

3. Hypothesis: to un _learn to open space to new knowledge

Our education system frame leads our students to follow rules, “it is a method of mental distortion, conductista, that push them to be good to fit in pre-established economic and social models” (Price, 2001, 39). We try to make them un-learn, so they can adapt to any situations, and develop the capacity of self-learning.

We try to work in assignments and methodologies that empower the student so there is an upside-down exchange of roles. We create a circus scenery to intensify the activity so the student is not really aware of what is happening, because it has something more exciting to care about. Teachers, as members of learning communities, must assume this affective tasks.

4. About the affective ecosystem on learning design pedagogy

> *…’You will write,’ she said, ‘if you will write without thinking of the result in terms of a result, but think of the writing in terms of discovery, which is to say that creation must take place between the pen and the paper, not before in a thought or afterwards in a recastifing. (...) It will come if it is there and if you will let it come.’ John Hyde Preston: a conversation with Gertrude Stein (Ghiselin 1985: 164)*

The habits and routines that prompt the reactions of a designer immersed in a creative process are almost shaped along the first years of school. Emotion is specific, individual and conscious. In this sense of attitude, we notice a difference between students coming from traditional curricula schools and those who took constructive pedagogies within the childhood. The first group use to present different levels of ADD Affective Deficit Disorder in the classroom, but trained the seconds as a holistic subjects, without detriment to any cerebral hemisphere. This issue is seminal to avoid mental block in the creative process.

Faced with the encyclopedic knowledge teaching, the theory of social learning by Albert Bandura raises much of the teaching process on the social environment. In this approach, students observe, interact, acquire group experiences and diverse behaviors that can hardly be acquired individually. Strategies, attitudes and beliefs apprehended through these creative pedagogies implement high doses of affective information that enhance the student's disposition toward the design project.

The speculation of learning by observing what others do, and also the evaluation of human thinking processes, as fundamental to understanding personality, has as a consequence to bet on a pedagogies based on action. First act, then thinking.

However, in the case of teaching architectural design project -and in many others-, the physical environment of the classroom seems to be important to incorporate a special attunement on students learning process (Lamela 2016). This allow us to test a short of ecological learning theory, in the etymological

sense of Ernst Haeckel. This means a social learning that implements a special sensitivity towards the physical environment or habitat.

As usual in the Spanish university, we do not teach in Montessori 'landscape schools', but rather in places of enormous hierarchy and little flexibility. Therefore, we manage the configuration of the classroom as free space, a sum of potential social project (s) developed by the students. They design the learning ecosystem scenario for diverse pedagogical actions. This approach forces them to make a choice. The 'Independent Republic of the Classroom' entails high doses of fun, excitement and play.

4.1. Case studies

We can explain several situations related to learning environments, in the classroom or not, that follow this hypothesis of methodology. These situations are closer to kindergartens activities than university tasks, but the method is clear: there must be a strong willing to not think, to be free from others' opinion, empower yourself and be you. We recognise "intuition as the capacity of mental structure to recognise new and unexpected fenomena" (Heller, 1987, 149)

The way to teach creativity is a path to the children inside the student. This children has fade away with the time, and hidden behind masks. But we have to come back to that child, free and happy, that doesn't care about what others think about their first lines, that has no limits in his imagination.

Affective teaching through pedagogy display skills at creative curricula is our challenge as teachers. We have collected ten case studies carried out in the classroom of DAI 1 and 2 at ETSA Madrid, Universidad Politécnica de Madrid.

4.2. Approach to a unfinished decalogue:

1) Architects no longer work alone but collaboratively. Teamwork and timing under pressure are appropriate to strengthen this skill. When time is short and format is huge, the results are coming. This case (fig.1) was a collective painting done with brooms, where every 10 seconds a group of 10 students had to add a layer to the drawing, while trying to represent Cuenca's landscape: mountains, houses, sky, and stones.

Figure 1. Figure 2.

2) Enjoyment or funny pedagogies, focussing the addition of diverse issues that entertain students -Simpsons, graffiti, videogames, music…-.

Singing and Dancing project improved pedagogical objectives, students had to sing their ideas for a competition with a bachata song. They can be disguised. Lyrics, harmony, choreography were amazing. (Fig.2)

3) Abandonment of authorship and originality in favor of post-production dynamics, sampling and shared knowledge. There is always this kind of fear to the white paper, or to waste material, or to authorship; painture, …this can be healed with huge papers and painting with the body, on it and over it. (Fig.3)

Figure 3.

4) Creative processes abandon the ancient operative logics to introduce actions prior to reflections: intuition as a form of knowledge. Doing, then thinking was the hypothesis of many pedagogies. Working with very cheap materials, doing random things without thinking is a way to start creative process without the rational part of the brain. Their creative impulse attempts to re-examine the elements of designing syntax. Authors falls down a derive through materiality and operative strategies. Surprises are guaranteed. (fig.4)

Figure 4.

5) Without certainties. Risk learning means looking the world from outside of the academy. Analytical design processes should assume the complexity of reality. This non reductive approach was experimented through Party Project. Celebration is always a good way to motivate for a working process about openness. (fig.5)

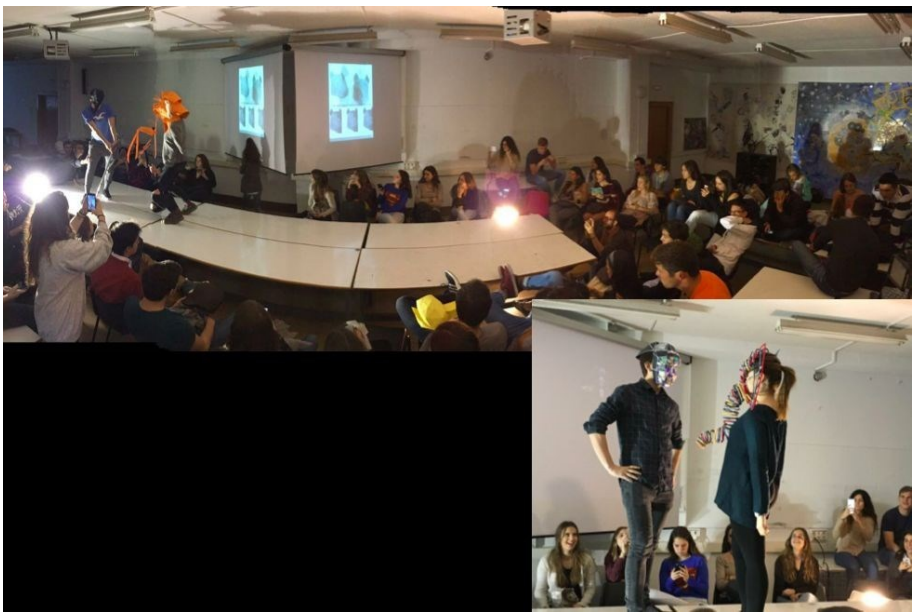

Figure 5.

6) Avoid the appropriation of ideas. Thinking and knowledge should be shared to evolve the design towards more complex creative system. Speed dating is a technique to test this topic. 30 seconds to explain your idea to a third year student and receive feedback, done 30 times in 2 hours is a way to improve the idea, the creative process, open possibilities, and think further and deeper. (fig.6)

Figure 6. Figure 7.

7) Consideration of architecture as a mediation between human beings and nature. Development of the sense of responsibility on sustainable and inclusive processes that consider both the service to citizenship and the relationship with the planet (Fig.7)

8) *Arcimbolding*, designing from fragmentation. Organize, structure and hierarchize are design project actions. Robert Venturi addressed the concept of part-to-whole, defining the ingredients of an organization as ‘elements, links and the difficulty to connect the whole’ (Ibañez, 2015: 9). Therefore, designing is to discover these links between parts and the whole. This pedagogy explores design processes from fragmentation and assembly. Our referencies were italian painter Giuseppe Arcimboldo (Milán, 1527-1593) and the concept of Knolling. ABK movement (*Always be Knolling*) recognizes this impulse about organizing objects that share some concept. Knolling can be considered as a design technique, it was coined by Tom Sach while working at Frank Gehry's office designing furniture for Knoll.

After a first self-exploration that consisted in making a plaster sculpture of oneself head (fig 8), students brought to classroom objects from garbage containers. They had to build with them a new replica of their head (fig 9). The action began with a market where each student could steal a piece from another.

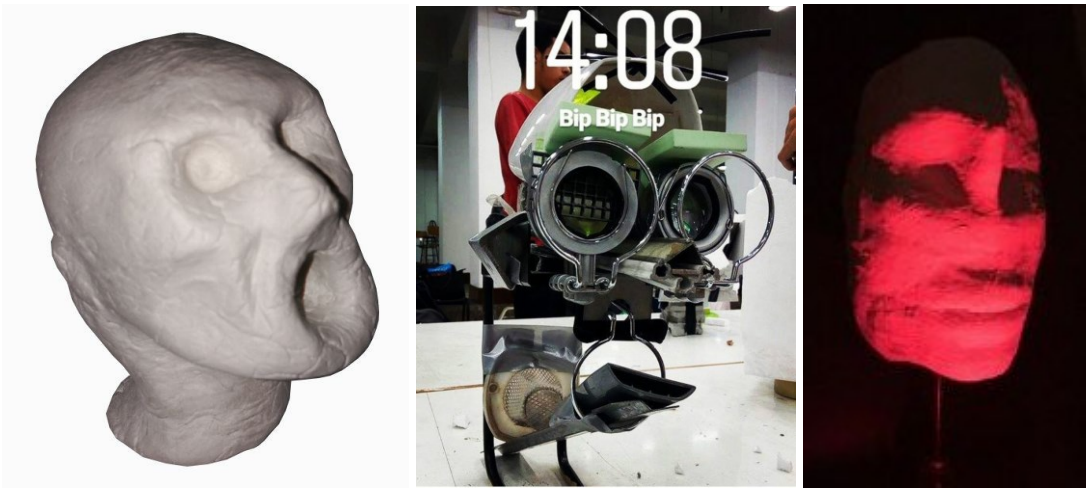

Figure 8. Figure 9. Figure 10.

9) Mind and body working together in a scenario of freedom with no censures and rules but respect for diversity. Monstering, designing the specific, was an action to explore this dual issue (Fig. 10). It began with a theoretical introduction where we presented the concept of monster as a creature that intensifies its personality with an exceptional and specific condition. Above this theoretical background, each student had to discover each own ability and intensify it as a superpower. A monster collection became alive.

Afterwards, each student had to design and build a mechanic hand prosthesis that should allow to implement the superpower. This new body extension should be designed through waste objects assembly. Finally, a session was dedicated to register these projects with drawings and pictures in a sort of exhibition in a big central table.

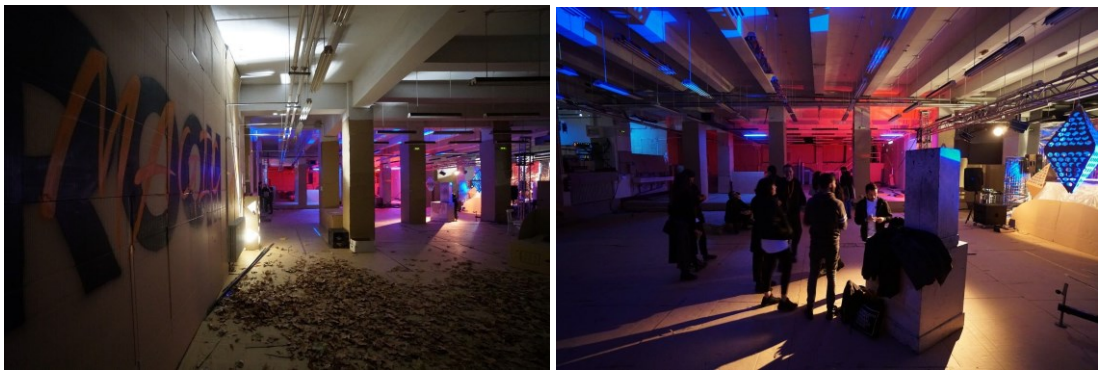

Figure 11. Figure 12.

10) Empowerment of first-year students as real architects. The millennial generation belongs to the maker culture. They have the capacity to approach the project process from the beginning to its construction. This was the core of Magic Project, a total pedagogy developed by the students (Figs 11-12). After a competition process between teams of 4-5 students, the winning design project proposed to cover the entire classroom with cardboard and design a party.

5. Conclusions

Our role is to create the necessary conditions to make educational the students' experience (Saenz Obregón, 2004, 44). To make the students provoke leaks in the action and in the plane of thinking, only indicates the need for the concepts to be revised or even to explode and change the direction of the experience.

We are not sure about the method or the teaching strategy we do. It may be also provokes the contrary: turning adult architecture students into

never-ending children, unable to decide, to assume responsibilities or to lead their own life's where they want.

There must be a way to change how to teach creativity in architecture school, without having emotional troubles, having fun and learning a lot, and this is probably returning to connect our unconscious part of the brain with our primary emotions. Being less rational and more instinctive, more animals, losing the fear of not being recognised by others, not receiving likes, and not suffering for that, because the creativity comes up with freedom and love.

There is still a long road to walk to get results and demonstrate that unlearning from everything we learn about "how to do things, how to create", and doing it with the right side of the brain instead of the left side, being more emotional and less rational, connecting with our most inner emotions, and avoiding fear, must be something good in order to create without barriers, and with freedom.

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Biography

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She founded Temperaturas extremas Studio in 1988 with Andrés Cánovas and Nicolas Maruri that have got more than 100 awards, specially in projects related to housing. This year 2018 she has been the curator of the Spanish pavilion in Venice Biennale.

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Renewal of learning places

The improvement of the common spaces of the Public Schools

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Synopsis

The research involves enhanced use of public school buildings and open spaces. Improvements to school spaces and renewal of learning places will be made through small, dedicated architectural projects. Regeneration projects will take schools' open and common spaces as their starting point. The modification process will examine the requirements of experimental teaching, evaluate the needs of the scholastic community and observe the specific physical condition of the school structures included in the research.
The research, with the collaboration of an inter-disciplinary team, aims to propose guidelines for a change to existing culture within public schools. We intend to promote processes whereby schools are opened to associations undertaking socially relevant programmes, such as parents' organizations and non-profit organizations. We aim to start processes for the re-use and regeneration of the many abandoned spaces inside schools. We wish to promote updated teaching systems using new innovative models. The main theme of this research is to give physical shape to the Community's sense of belonging to the school, and to re-define a reciprocal relationship between the school and all those who live in it.
A project of architecture which can give a recognizable identity to anonymous spaces. A project that aims to offer new future and achievable perspectives for improvement to locations where social criticalities, nihilism, exclusion, marginalization, and sometimes violence, seem to prevail. The care for spaces, gardens, trees, new play-grounds, canteens, atrium, will reconfigure weak areas as areas in which new shared values are shown. An essential aspect of the architectural project includes the revision of technical components related to shading/sunny spaces, healthiness, security and energy efficiency. The scholastic heritage is re-designed in a qualitative sense through a new process of signifying and regenerating the common spaces by minimal interventions, allowing to work step by step.

Key words: School, Common spaces, Human Sciences, Experimental teaching.

1. Enhancement of Public Schools

This research is part of a multidisciplinary project. Its main topic is the recognition of the value of public school buildings in Milan and in its metropolitan district[1]. This research is focused on the need for an integrated and structural intervention based on the opening of Public Schools to the social and cultural realities existing in the city. Some local administrations are involved in the project.

The project includes on-site actions under the supervision of multidisciplinary scientific coordinators who are going to monitor the different interventions. It is intended to be a useful tool for the school system, so that it responds to the transformation needs required by current times. This way the school can strengthen its educational mission fulfilling its role of a place dedicated to learning.

Figure 1. Key-words of the research.

2. Introducing the First Case-study. *Luigi Cadorna Pre-school and Primary School*

The first case-study is the Luigi Cadorna Pre-school and Primary School that was built in the 1930s. Its architecture shows the typical features of the schools built in the Fascist period. The Cadorna school is located near the San Siro-Milite Ignoto working-class housing district which was designed by Franco Albini, Renato Camus and Giancarlo Palanti. It was built between 1931 and 1951 by the IFACP/Aler Regional Agency.

The realization of the Cadorna school was fully compliant with the guidelines for new school buildings as set in the “Norme per la compilazione di

[1] The first section of the research (2017/2018) is called "PROJECT SCHOOL", which is promoted by AIDIA - Italian Association of Engineers and Architects of Milan: Project leader arch. L. Poletti in collaboration with Ing. M. G. Mulas - Dipartimento di Ingegneria Civile e Ambientale, Politecnico di Milano – and in collaboration with some others departments of Politecnico di Milano, Ing. M. Albini, Arch. P. Branduini, Lighiting Designer C. Carucci, Dr. D. Casciani, Ing. A. Consoli, Ing. B. Ferrari, Ing. M. C. Motta, Arch. I. Oberti, Ing. E. Plescia, Ing. T. Radici, Ing. S. Regina, Arch. F. Lanz, Arch. B. Coppetti.
The following section of the above research refers to the project called "A shared school: for a culture of happiness", Call for New Generations 2017, Scientific committee by Università Bicocca, Politecnico di Milano, Scuola di Coaching Umanistico, with two local association Cooperativa LaFucina and Associazione Ala.

progetti per l'edilizia scolastica"[2] dated 1925. According to this milestone regulation, the new buildings were to meet a number of spatial and hygienic requirements regarding gyms, changing rooms, the medical room, the library, top management and administrative offices, the teachers' lounge, the keeper's room, and rooms for teaching students with learning disabilities. The Cadorna school was also equipped with a swimming pool with changing rooms and spaces for cooking, food storage, preparation, distribution as well as its consumption in the canteen.

Currently some of these spaces have fallen into disuse, not only in the Cadorna School but in all the Milan-area public schools. Some of these spaces are in a state of abandonment. Today the reactivation of their original functions is very unlikely because of the general reduction of the public services offered to the citizens. As an example, the decision to centralise the activities of cooking and food preparation in a single infrastructure outside of the school buildings, has been the main reason for the abandonment of the large kitchens originally designed and realized within each public school. All the same applies to the pool. In the Cadorna school it is in disuse and obsolescence (at level – 2.40 metres).

The Cadorna School also presents further interesting specificity connected to the social context characterized by a marked ethnic heterogeneity, due to the proximity with the San Siro district. The percentage of foreign children is 65% on average. In some classrooms it reaches 90%. The main current nationalities related to their places of origin are Morocco, Egypt and Philippines[3].

Cadorna School is a model of enhancing the heterogeneity since it is the first "open school" case in Milan. In fact it remains open during the afternoon and evening for language courses and for extra-curricular activities like music, cultural and sport courses. Laboratories, animated readings, films, games, exchange of used clothes are just some of the possible activities organized with the common aim to integrate the different ethnic groups. "Mothers at school" is a non-profit organization composed of volunteers that was created in order to give the chance to learn Italian to foreign mothers. In the meantime, their children are looked after by a baby-sitter.

In order to implement these activities and to respond to the need of regular educational spaces, the main problem emerged is the lack of spaces. The architectural project we are studing must respond to the demand of new classrooms for the literacy of newcomers, while avoiding the overcrowding of the existing spaces. In addition, the architectural project should respond to the necessity of dedicated educational spaces for children with critical family situations or requiring psychological support.

[2] My translation "Regulations for the drawing-up of school buildings projects "

[3] The newspapers marks the social dynamics and open questions in public schools: Corriere della Sera "*Da 'scuola ghetto' a modello di integrazione*" 2013, November, 7th / Corriere della Sera, "*Milano, le scuole sovraffollate chiudono agli studenti stranieri*" 2017, December 18th

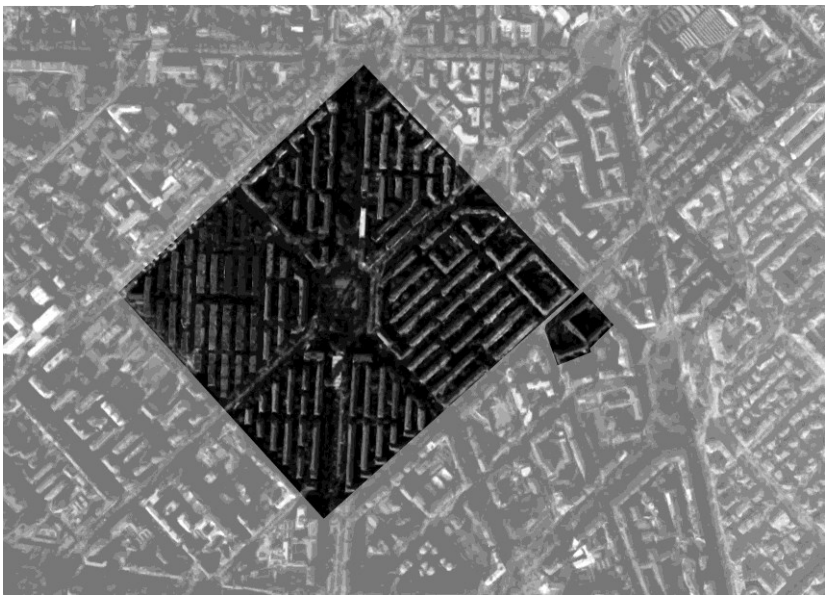

Figure 2. San Siro Milite Ignoto district and Cadorna School in the East.

3. The project

The existing spaces have to be redesigned to meet the new needs, in such a way that the goal of integration is effective, visible and concrete. The project has as its main objective the regeneration of all school common areas in which the community can recognize itself. These include the former canteen, the courtyard, the garden, and the hall for parties. The project is shared with current users through questionnaires and interviews to students and administrative staff[4].

The first step of the pilot project focuses and redesigns the open spaces of the courtyard in front (entrance of the school), the small green area and the garden at the back where there are service spaces like loading and unloading areas, parking lots and areas for waste management.

In the courtyard and the garden it is necessary to redesign the common grounds, the areas dedicated to outdoor activities and new playgrounds. The overall project works on articulations of the soil in order to connect different levels (-2.40 metres, +1.40 metres, zero level) through the opening of direct connections between semi-hypogean floor (-2.40 metres) and the garden (zero level).

In conclusion, this project gives value to the existing buildings and related open spaces, in order to regain spaces at -2.40 level, that have fallen in disuse. The idea at the basis of the project is to realize new laboratories and a new canteen overlooking the garden and allowing to work/eat outdoors in the summer and spring. The program envisages tables and chairs under the trees where it is possible to have classes, while in an another enclosed area children can safely play instead of finding themselves in asphalted grounds. A complex

[4] The first visit and survey in the Cadorna School was on 14th November, 2017; the most important meeting with the project team, the School Management and the representative parents was on the 5th December, 2017; the general check of the project and contribution was on 21st March 2018, the project is going on looking for the public meeting on October 2018.

project that focuses on the courtyard and the garden going through the canteen. These two open spaces are meant as two different public areas where the heterogeneous and multi-ethnic school community can find the necessary stimulus for mutual sharing and respect. The core of the architectural and social change is the break and recreational time. This is a new perspective that overturns the conventional approach that is focused mainly on classroom-taught lessons.

From the methodological point of view, surveys and data collections about the use and the state of the art of these area were carried out. The project program was discussed in detail during meetings and interviews with the headmaster of the Institute and the school staff, and also included questionnaires addressed to children and drawings made by the little ones. This research is shared with all the people who daily attends and use the Cadorna School. The project aims to deal with their concrete needs, offering them different solutions through light interventions using colours, new materials and the control of natural and artificial light. Finally, our ambitious purpose is to spread this research and the guide-lines of the project to all Public Schools with similar features located in the metropolitan area in Milan.

Figure 3. Possible landscape scenarios as a research contribution: design strategies for the open spaces of the Cadorna School, elaborated by the students of Architectural Design Workshop 2, prof. B.Coppetti, M. Aimini, R. Brumana, a.a 2017/2018.

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Biography

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She develops her research on the project of open spaces, public space and public buildings with specific attention to architecture of the soil. She coordinated the three years program "Re-forming Milan. Design experiments for neglected and decayed spaces and building". She is scientific director of the "Industry in the park - Architecture Energy Landscape", a research program commissioned by the private holding Terni Research. She is member of the research group involved in the Ministry funded, PRIN research Re-Cycle Italy on the regeneration of industrials and marginal areas. She has worked as a professional consulting for the City of Milan at the Sector Strategic Projects contributing to the planning and design of complex areas of urban regeneration..

Space and Light

Experimental space and light exercises in architecture education

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Synopsis

This paper examines the relationship between light, its effects, and architecture and visual arts. It demonstrates a series of experimental exercises conducted by the Department of Graphics, Form and Design at the Budapest University of Technology and Economics (BME), which focus on the role of light in architecture and aim at the integration of light in the complex design toolset of architecture students. With the help of experimental artworks on the borderline between architecture and fine arts, students learn how light transforms space, initiates and defines spatial interactions, and how it influences the ambience and the dynamics of the space. In the process, students acquire techniques for the effective representation of complex lighting effects in architectural interiors.

Key words: Space and light, lighting design, design methodology, architectural composition, interior design.

1. Use of Light in Visual Arts – Historic Overview

Since the time of the first erected structures in the history of human civilization, light has had a unique place in architecture. While natural light is essential to the human circadian regulation and the psychological well-being, it is also fundamental to the visual experience. It enables humans to appreciate their surroundings, to perceive colours and spatial depth, as well as architects to define the character and to communicate the general feel, emotion, ambiance and temperature of a space.

As structural innovations allowed for larger, more flexible and versatile openings on buildings, light has become a design tool itself. From the Roman Pantheon to Tadao Ando's Church of Light, architects have not only incorporated the effects of sunlight into their interiors, but also designed entire buildings around a specific light feature of light phenomenon. Whether it is natural, or artificial, directed or diffuse, static, dynamic or kinetic, sharp, obscure or opaque, white or coloured, warm or cold, light has the ability to embellish a simple space, often in more varied ways than any physical structure.

With the emergence of photography, other fields of visual arts quickly adopted light into their toolset. László Moholy-Nagy, Man Ray, Christian Schad were among the first painters to experiment with photosensitive surfaces, which replaced the traditional canvas in their photograms. At the New Bauhaus school in Chicago, György Kepes, the head of the Colour and Light Department, created camera-less light graphs. As electric incandescent lighting became safe and affordable, possibilities expanded enormously, and artists of the Modernism began using light as the main form of expression, rather than solely as a vehicle for other forms of art. Marcel Duchamp and Naum Gabo were pioneers of creating sculptures from shadows and reflectance. Nicholas Schöffer's cybernetic creations, Wen-Ying Tsai' stroboscopic light sculptures, Ellis D Fogg's lumino-kinetic artworks are just a few examples of how artists of the op art embraced light. Neon lighting is the main feature in the works of several artists, including Victor Millonzi, Dan Flavin, Gyula Košice, or more recently by Michael Hayden or Lili Lakich. Projection mapping and light graffiti transform the static walls of existing buildings into the display surface of moving light creations.

2. Light as a Design Tool in Architecture Education

In parallel with the process of visual and industrial artworks becoming an integral part of contemporary interiors – as opposed to serving merely as decoration - lighting as an artistic instrument has also gained an unprecedented momentum. Despite its powerful capabilities as a design tool, however, the role of lighting is often underrepresented in general academic architecture education, with lighting design mostly limited to specialized master programs. The BME Department of Graphics, Form and Design has conducted a series of exercises in the field of light studies in dedicated courses for both in its Bachelor and Master program architecture, over more than a decade. These courses follow an effective perception development methodology that revolves around the systematic interpretation of the nature and characteristics of light, the different lighting phenomena, and various optical effects through a series of

tentative scale models, with the prospect of the adoption of the findings into architecture design. The following section introduces a few of the several light exercises conducted in the frame of this comprehensive and long-running research process.

3. Light Exercises

Largely inspired by the above artists and fields of light art, the exercise titled *'Light Modulator'* introduces students and different filters of altering light, shadow and the perception of the lit surface. Using light as a paintbrush, students create abstract compositions, while experimenting with transcendent and genuine light effects, and their in-between transitions. At the beginning of the project, students learn the basics of light photography, the physical attributes of light, and they set up their own makeshift studio, using simple objects - emitting, filtering or reflecting light - found in their home or learning environment. They examine how these objects alter the way light appears on and around them, and learn – often as an accidental result of their experiments – how to achieve the desired effects. The course teaches them how to capture light in motion, and, implementing the above effects, they create conscious graphical compositions (Fig. 1).

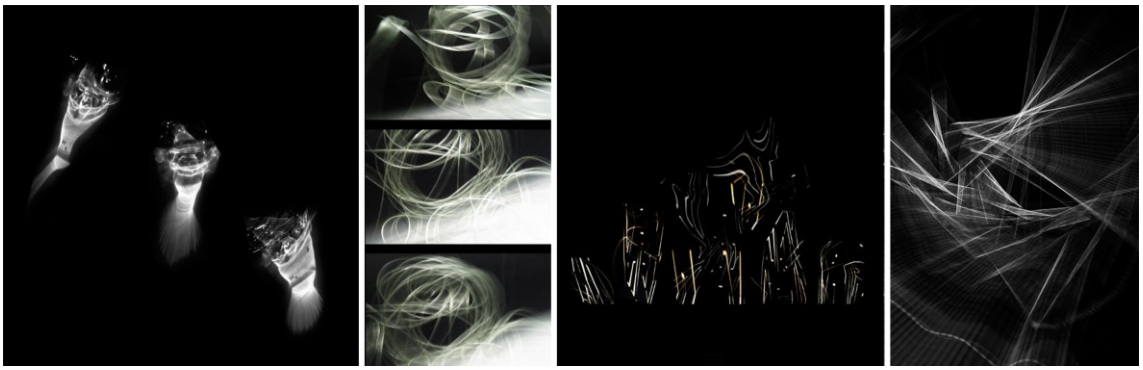

Figure 1.

The catchphrase *'Positive – Negative'* (Fig. 2) marks another exercise and a step forward, in which students learn and examine the compositional principles and proportional systems of avant-garde artworks and create compositions by elevating their own planar interpretations based on the same principles into space, thus transforming the abstract compositions into architectonic structures. Juxtaposing their composition and its negative outline, they experiment with the interplay of the constellation and light. Contrast between the spatial object and the surface, the counterpointing reflections and shadows contribute to a complex compositional harmony.

'Space and Light' is the collective title of a series of exercises in which students build simple tentative architectural interior models and analyse lighting scenarios from aesthetic and compositional aspects. They learn about the fundamental compositional principles of physical manipulation techniques like folding, corrugation, or perforation, in order to create interiors that are adoptive to light and lighting effects. Then, employing the toolset they acquired in the course of previous projects, they start experimenting with scattered and directed light;

examine the effects of different types of perforations, surface textures, the tonal transition of shadows, and learn about the role of backlighting, the proper use of linear and area lighting contrasts, and the aerial perspective. Students recreate the complex lighting effects of transparent and translucent structures and materials found in contemporary architecture: they form transcendent quasi-spaces with the help of volumetric lighting effects (Fig. 3).

Figure 2.

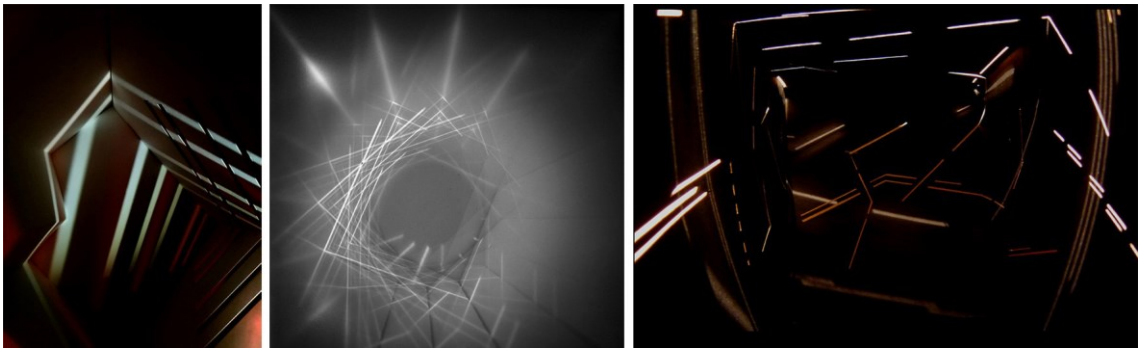

Figure 3.

Part of the project is to understand how the shape of the model interior, the applied materials, textures, and surface modifications contribute to the lighting effect, and, from the other perspective, how light forms the way we perceive the interior. From a teaching point-of-view, the challenge is to ensure a conscious, goal-oriented development process. Students need to be able to define the desired outcome before the experiments, while lecturers help by defining the appropriate tools and multiple potential directions while leaving enough room for creative trials. Students photograph the finished model from a human-scale point-of-view (Fig 4).

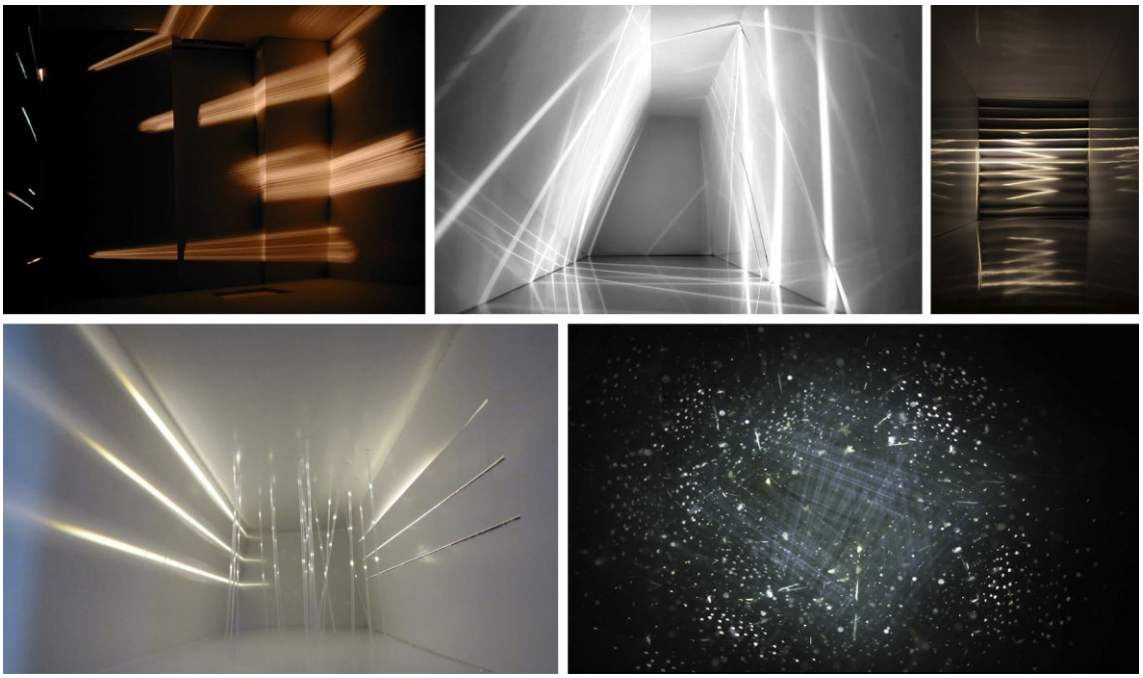

Figure 4.

The project concludes with a light-path study - animations using natural and artificial light sources to examine the versatility of lighting conditions or the path of the sun.

Figure 5.

4. Conclusions

Light has been a very powerful instrument in architecture and visual arts. In contemporary architecture, spaces become undefined and versatile; the enveloping surfaces convert into tools for impression and expression: virtual displays of an interactive experience. The static physical boundaries give way to dynamic features. The flexibility and complex expressive power of light makes it an invaluable design tool in architecture. Over the recent years, these light exercises have proved to not only help develop students' understanding of the

complex relationship between light and space, but also enhance their visual sensitivity. Following a strategic methodology, these experiments have enabled students to extend their compositional skills on the borderline of art and architecture, and further develop their visual representational toolsets. Adopting these techniques, they have been able to use light as a conscious and deliberate design tool for the expression of more complex and refined architectural interiors. At the same time, the teaching of these courses and the developed techniques have been a great source of inspiration and have led to several other research and art projects at the department.

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Biography

Portschy Szabolcs. A full-time lecturer of architecture design and architectural graphics at the Budapest University of Technology and Economics (BME) for ten years, and is currently a PhD student at the University of Pécs. He holds a Master's degree in Architecture and second Master's in Economy. He was a Fulbright scholar to UC Berkeley in 2007-2008. His primary research covers two distinct areas, teaching methodologies of community participatory architectural design, as well as traditional and hybrid architectural graphics. He was the director of an experimental community design studio at BME between 2008 and 2013.

One Day in LA

Revisiting an architectural project is to open the mind to new knowledge

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Synopsis

Could an architecture project be revisited repeatedly, and still surprise you with new possibilities? That question crossed the mind of this author when she read the approach suggested by EURAU this year. This was the reason why she decided to produce a new review of her own Master Final Project by a different focus, discovering, however, dimensions which have been always there. This project titled One Day in LA, submitted itself like a personal travel in which its author approached to Los Angeles and its imaginaries by exploring some ways of life that take place in the multiple architectures of that provisional city. An experimental research whereby was possible to explore new scenarios which emerged by the combination of architectural techniques with others from different fields, like the films one. With the aim of starting a discourse about some political, social and cultural factors, which are universally valid, exemplified in this work in Los Angeles.

Key words: Architecture, Film, Transgressor, Social, Pedagogical.

1. *One Day in LA: Networked Dreamers Build the Global City*

One Day in LA: Networked Dreamers Build the Global City is a project that targets different situations and issues from diverse perspectives. The result is a short film[1] which operates by means of numerous layers (Fig. 1). It is a story that shows how the architecture project, understanding the architecture in all its cultural and political aspects, is able to originate the circumstances to a proper discussion about the ideas and contexts of the global city, reflected, in this case, in Los Angeles.

Figure 1. Film Poster.

The situations of that global city are produced by the design and the development of a screenplay and some scenes that approach the spectators to a reality that queries the day by day of Los Angeles (Fig. 2). In fact, this work shows the permeability of some spaces that evolve, acquiring new cultural and political connotations. This architectural project focuses on the social, cultural and political practices of four different communities that build their own city (Fig. 3). For this purpose, the architecture must target diverse scales as the residential, the urban and the territorial infrastructure one, from different points of view fiddling with the scale of the objects.

[1] The film, One Day in LA, is available in https://www.youtube.com/watch?v=BP4sJLlGmiA&t=3s

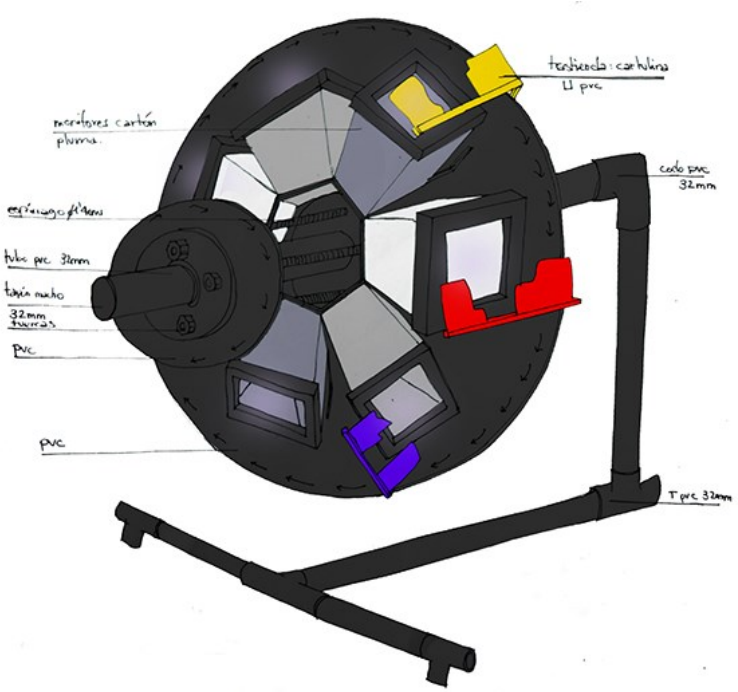

Figure 2. *Asian Stock model design*.

Figure 3. LA sociological film map.

Therefore, this project places value on the space and also on the objects, which acquire the symbols class, related with the feelings and living arrangements of citizens that fight every day claiming their space in the public sphere. The objects give sense to the story and allow the approach to the city and its multiple imaginaries by the personal vision of the author. The objects used by the characters and the different chapters provide insight the functionality of the complex organism called Los Angeles (Fig. 4).

Figure 4. *El taller de los sueños objects*.

This research, thus, is concerned about the aspirations and challenges that the Angelinos deal with. However, this is an imaginary travel to a city which has never been visited physically by the author. For this reason, was essential, like in all the architecture projects compromised with the reality, a substantial research that incorporates new perspectives from external experts. In this case, the films and the literature transform the research into a multidisciplinary one, in which the architecture disseminates and imagines a universe that reflects about the current situation.

2. Methodology: Films and Architecture

One of the main objectives of this proactive research was to propose a work methodology which combined film methods with the architecture one. In this sense, the work achieves an experimental approach that allows the progress of the architecture project to unsuspected ways. Furthermore, by combining this approach with the architectonic object and the political status of the characters through the camera perspective, the architecture project gets an imaginative dimension which acts as communication vehicle of a specific as well as a global reality (Fig.5).

Figure 5. Reflejos en la ciudad obscura frame.

The connexion between the architect role and the diverse film facets were used to research on the production of a screenplay and some scenes constantly changing (Fig. 6). Although, it was a process of trial and error, the support in other fields' experts, whose ideas are the basis of this project, was crucial. The research draws on texts as City of Quartz by Mike Davis or films as Crash to create a basis which reconfigures an own imaginary. An imaginary that was built in order to establish a dialogue about the social, cultural and political issues of this heterogenic society, as well as with the architecture and the territory.

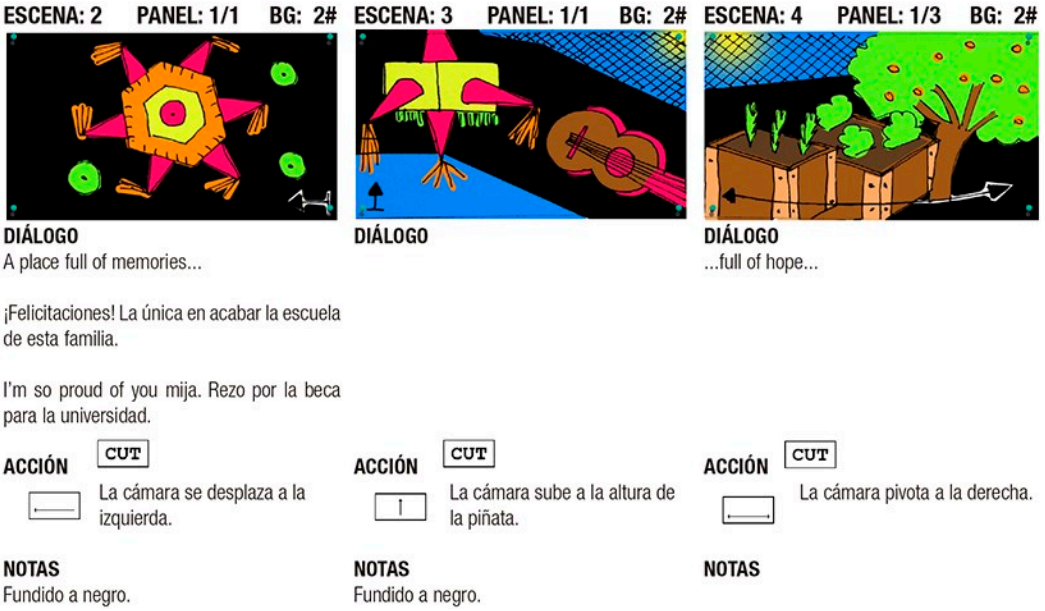

Figure 6. Urbanismo mágico storyboard.

3. Creative Research: Retroactive and Pedagogy

Therefore, this Master Final Project[2] is a multidisciplinary project, because the architect draws on other disciplines to extend its knowledge and starts using other tools from its own imaginary. In addition, this project extends the limits of the architecture to approach itself to the city, its urban culture, and its socio-spatial and political issues by an imaginative and suggestive way providing a discussion about the social situation.

The project targets topics of global relevance like the illegal immigration, the anchor babies' issue, the wars of water or the racial tensions and the segregation (Fig. 7). The architecture cannot ignore these current social situations. The architecture must call upon its ethic status and acts disseminating all these problems to create a discourse that involves agents of very different fields, indeed.

[2] The document, One Day in LA, is available in https://rua.ua.es/dspace/handle/10045/72253

Figure 7. Burn, Baby Burn frame.

In conclusion, this project also has an educative dimension. By the construction of this story with a huge social charge and by the design of the scenes, the project makes feel the spectator the agony of that people, so they can empathise with their situation. It is a project of social pedagogy which shows complex situations through the architectural language in order to send a message (Fig.8). Furthermore, this research constitutes a teaching to all people that visit it, surprising with their possibilities not just its author, but also its spectators. Therefore, this research lays a project foundation which can be valid for the architecture field and beyond.

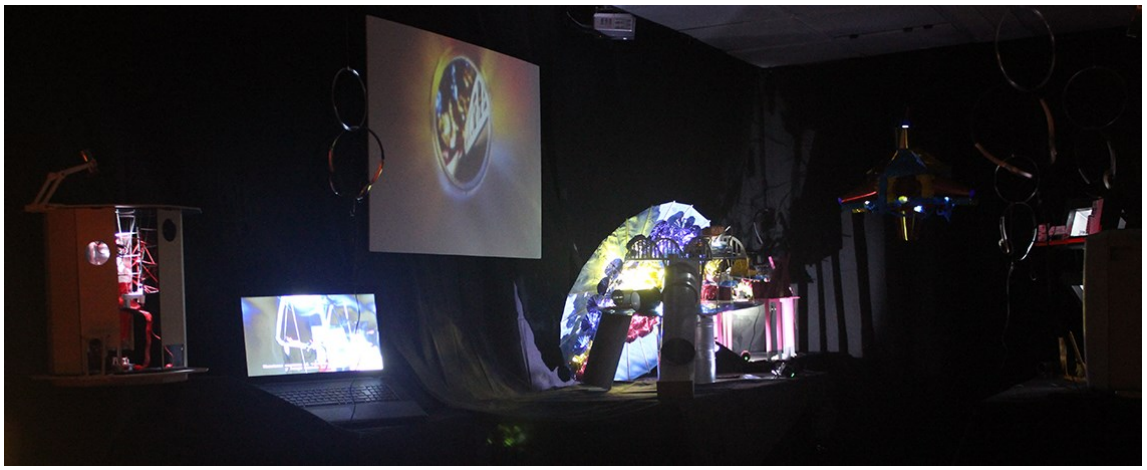

Figure 8. One Day in LA exhibition.

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Biography

Andrea Olivares López. Architect graduated with honours by the Polytechnic School at the University of Alicante (2016) and Master's Degree in Architecture by the University of Alicante (2017). Her degree's project, "Los Ángeles Hardware & Software: Una lectura contemporánea de las cuatro ecologías de Reyner Banham", and her master's project "One Day in LA: Networked Dreamers Build the Global City", got the highest recognition by the University of Alicante. Currently she collaborates with the Department of Graphic Expression, Composition and Projects at the University of Alicante by designing and producting a book about history of architecture. She has participated in different international contests as BEAU VI (2017) and the Spanish Pavilion of the Architecture Biennal of Venice (2018) where her projects are exhibited. Recently her master project has been selected to represent the University of Alicante in the nacional and internacional contest "Archiprix 2019".

TILIBFOP*: A research on the European architectural identity

* (Things I learned in Barcelona from other places)

Grau Valldosera, Ferran[1]
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Synopsis

TILIBFOP is a retroactive research on the European architectural identity, and a cross-cultural experience developed by foreign (non-European) master students. TILIBFOP is a European and interdisciplinary tour searching for non showy architectural and artistic practices, and looking for the origins of some current, critic and independent architectural practices in Europe.
TILIBFOP is a research on the work of independent contemporary creators who recover a committed attitude that outsiders architects adopted during the fifties and the sixties.
TILIBFOP is an academic experience framed in "All scales of the project" subject, taught at ETSAB[1] MBarch International Master (Architectural Design Department).

Key words: TILIBFOP, culture, identity, interdisciplinary, independent.

[1] ETSAB: Escola Tècnica Superior d'Arquitectura de Barcelona, at Universitat Politècnica de Catalunya (UPC)

1. Historical frame

During the late seventies, and the mid-eighties, a series of architectural practices were developed in Europe proposing alternatives to the predominant postmodernist strength. The global reach of the architectural postmodernism put back on the table the status of local cultural identities. These alternative practices studied the redefini- tion of local identities, and retake the thread of the Team X' nonconformist statements, which were activated during the postwar period reacting to the lacks of the modern movement architecture. Not so far from the critical regionalism statements[2], these al- ternative practices also considered that contemporary architecture had forgotten the relation with the city, the territory, and the real needs of the users. These practices considered that the search for a local, urban, territorial and cultural features could be a first step towards the definition of a renewed identity. This architectural (European) identity that payed attention to past but concern about the future, is focused during the TILIBFOP exercises.

2. Definition of the investigation

TILIBFOP analyzes and studies the link between architecture and contemporary art, aiming to identify the roots and specificity of local identity. TILIBFOP is developed dur- ing a (virtual) European tour and is enriched by the fresh (foreign) gaze of the stu- dents.

TILIBFOP approaches the European culture paying attention to those nuances that figure out the diversity of architectural practices. The richness of the European diver- sity is crucial for the construction of a continental cultural identity.

TILIBFOP is also a student booklet that gather cultural realities and creates academic knowledge. Architecture and art are constantly blurring the boundary between them, and reassert the values of the cultural diversity.

3. Creative references

The TILIBFOP' artists and architects shared certain affinities. Almost all of them could be considered outsiders and independent creators making original works. TILIBFOP specially focuses on ópera prima works because these are usually essential and able to foster future influences.

Generally, the creators from the seventies, eighties and nineties studied along TILIB- FOP exercises, developed their work in contexts geographically displaced from large urban concentrations (as Gallego and Hondelatte), or worked accepting the uncom- fortable conditions of research processes (as Hertzberger). This fact emphasizes its rare profile, and points out specific conditions that influence the essential creative fact.

4. Methodology or how to make a booklet

TILIBFOP is a study that links disciplines and cultures and confronts foreign students with diverse and specific identities. Students introduce global inputs through this methodology. The research on the work of artists and

[2] FRAMPTON, Kenneth, Historia crítica de la arquitectura moderna, Editorial Gustavo Gili, Barcelona, 1987

architects is merged in personal designs that are gathered in the TILIBFOP booklet, which is considered a conclusion of the course.

TILIBFOP is also a methodology that suggests a critic review on the European archi- tectural identity at the present time. This retroactive exercise figure out the essence of the European identity and underlines the values of its own culture.

5. Achievements

TILIBFOP aims to be a fundamental tool for learning in the first semester of the mas- ter. TILIBFOP promotes the students training for interdisciplinary exercises, specially by using approaches that deal with abstract processes and divers representation sys- tems. TILIBFOP is an architectural design exercise devoted to creation. TILIBFOP es- tablishes a starting point of a personal research, that will probably be developed in a new cultural context.

6. Face to face


Figure 1. Figure 2.

Manuel Gallego[3] (Galicia), is an architect interested in the knowledge of tradition and the granite materiality of his region. His historic but contemporary projects show his concern about the territorial respect. Perejaume[4] (Catalonia), is an artist who artisti- cally grows rooted in the Catalan culture, and specially attracted by the geography and the essence of the country site. His artworks are absolutely built into the Catalan landscape, and are the consequence of thoughts on nature.


Figure 3. Figure 4.

[3] GALLEGO, J.Manuel, Manuel Gallgeo: arquitectura 1969-2015, Fundación Barrié, A Coruña, 2015
[4] PEREJAUME, Deixar de fer una exposició. Exhibition catalogue, MACBA/Actar, Barcelona, 1999

Jacques Hondelatte[5] (Bordeaux) was the architect of “la tête”. Hondelatte is the spiri- tual father of Lacaton & Vassal architects. He is the architect devoted to ideas that arise from a reasoned and deep thought and from an attitude that opens up to the possibilities of modernity. Gilbert Garcin[6] (Marseilles) is aged but young; he is the anti artist who self-psychoanalyses and took auto portraits (mainly with his wife). Garcin test the human behavior and creates surreal scenes that suggest original architec- tures from an introspective exploration.

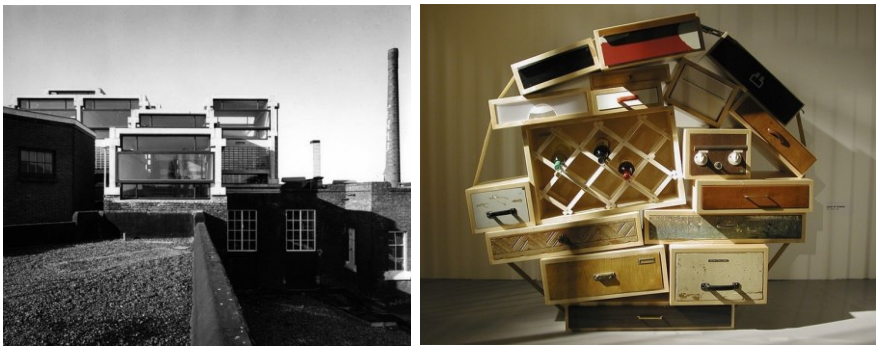

Figure 5. Figure 6.

Herman Hertzberger[7] (Amsterdam) is an architect and a generous pedagogue. He is contemporary and anachronistic, radical and conciliatory. He is a builder of unfinished architecture that invite users to adapt and transform it by themselves. Droog[8] (Amster- dam) is a group of industrial designers who, like Hertzberger, also works with the idea of the unfinished design. Droog is devoted to recycling aesthetics that surprises us and domesticates the space. Droog projects foster democratic participation.

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Biography

Ferran Grau Valldosera. Architect (1996) and PhD (2013) from the ETSAB, He is currently associated professor at the Architectural Design of Escola Tècnica Superior d'Arquitectura de Barcelona, where is leading the "All scales of project" subject, framed in the MBArch programme. He taught at several schools of architecture, including the ETH Zurich, Azriely School of Architecture in Ottawa, TU Faculty of Architecture in Delft, Yıldız Technical University in Istanbul, and Arquitectura en Alicante (AeA). In parallel he has collaborated with the Institute of Advance Architecture of Catalonia (IAAC) and the Barcelona Institute of Architecture (BIArch). His architectural projects were exhibited in the Biennale di Venezia (Unfnished - Spanish Pavilion, 2016, and Vogadors, 2012). His office (GrauCasais Architecture), has got many awards in competitions, and in 2018 he won the competition for direction of the QUADERNS magazine (num. 273), with Nuria Casais and Rafa Mateo.

Polyhedral Computing and spatial research in architectural education

Applications to spatial research

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Synopsis

In this paper we investigate an innovative way for modelling complex combinatorial spatial structures, called *Polyhedral Computing*. Already confirmed as an efficient tool regarding spatial cognition and education, the proposed framework of Polyhedral Computing can become an appropriate instrument for contemporary spatial research in architecture, education and design. Therefore, within this framework we propose the use of an algebra that acts on a set of Archimedean polyhedra - called "*variables*" - and applies various "*connectivity operators*" to create geometric expressions that satisfy specific validation rules. The construction flow for such geometric expressions can be described as an evolutionary process within the wider domain of computational architecture.

"If you want to teach people a new way of thinking, don't bother trying to teach them. Instead, give them a tool, the use of which will lead to new ways of thinking."

Buckminster Fuller

Key words: Architecture, spatial cognition, polyhedra, computing, education.

1. Introduction

Spatial cognition becomes increasingly important to society as new professions emerge as a result of technology advancements, especially in Information Technology and Data Sciences. It is expected that in the near future about 15% of today jobs will disappear: car divers, translators, accountants, health care laboratory workers, some jobs in the legal system and in teaching.

Education today has very little to offer in terms of spatial cognition. This type of knowledge comes mostly from home and self-education: LEGO, Rubik's cube, origami could be considered some initial points in spatial education. That is probably due to the lack of coherent teaching methods and evaluation techniques. Quantitative and analytics skills are well measured in school with tests including IQ, but spatial skills are considered minor. Consequently, education for professions like architect, robotics engineer, surgeon, data visualization programmer and many more could start very late, typically after high school.

The proposed framework of Polyhedral Computing ([AS]) addresses some of the issues mentioned above about spatial cognition, and generates an open-end "playground" for all ages. Polyhedral Computing operates with shapes inspired by the Platonic and Archimedean solids. Regular polyhedra and their truncations are the building blocks of this system.

There are two options of carrying out the generation of complex polyhedral shapes. Humans can interactively conduct the evolutionary design or they can delegate the tasks to computers via simulations. For instance, as soon as the input and the type of operations are specified, the computer will run the simulation one step at-a-time to transform an unorganized collection of polyhedra into a large unique block. The results of such simulations can be interpreted as geometric expressions obtained from geometric elementary modules connected via geometric connecting operations. The design is scale-free, allowing researchers to investigate multiple shapes consisting of modules of various scales: small, large and in between. Such an experiment is illustrated in Section 3, Fig.3.

Polyhedral Computing can be viewed as a special case of Natural Computing Systems ([LKGR]). This platform might be useful for architectural research based on polyhedral shapes, and therefore balancing creativity with harmony.

Several pilot studies showed that secondary school students undergoing training in Polyhedral Computing significantly improve their results in math tests and their performance in learning geometry ([AVV]). Contemporary architects have an important responsibility to finding solutions to design artificial spaces in terms of sustainable design.

This framework could be successfully used in training young architects, as their spatial cognition, spatial intuition and special intelligence will be enhanced via a coherent, systematic, open-ended and creative educational playground. Architects and researchers could use this platform for the discovery of new spatial structures with artistic and/or technological values.

2. Natural computing systems and polyhedral computing

Genetics, computational architecture and digital computers display a series features characteristic for Natural Computing Systems, or NCS, e.g.,

- The system has an infinite set of states described by a (finite or infinite) collections of features.

- The states of the system can be represented in an “one-at-a-time” fashion,

- The system displays a set of operations that allow state transition, from an individual state to a new state, via a “transition” matrix. The transition matrix can be deterministic, as for digital computer systems, or stochastic as for genetic systems.

Here we introduce Polyhedral Computing as the NCS with the states generated from three “atomic” modules, obtained via rectification from Platonic solids ([WW]) having all edges of the same length: tetrahedron (T), octahedron (O) and icosahedron (I) as depicted in Fig.1, by sequentially applying any of the three polyhedral operations as described below in Fig.2.: delta, nabla and gamma operations.

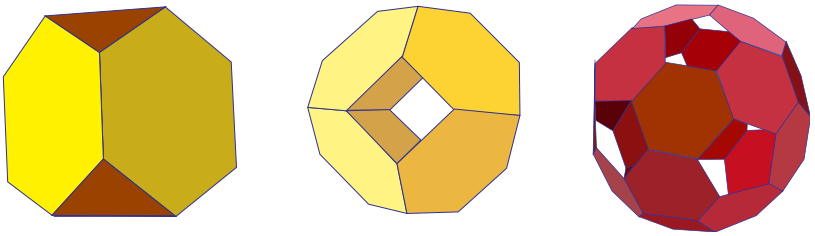

Figure 1. Module T, Module I, Module O.

The modules should be interpreted as having solid faces (regular hexagons) and virtual/empty faces (equilateral triangles, squares or regular pentagons).

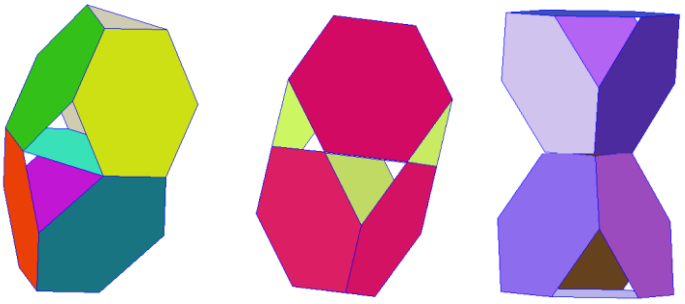

Figure 2. Delta (T,T), Gamma (T,T), Nabla (T,T).

The system can generate expressions by applying iteratively the connection operations to a set of modules. Some of the expressions will be valid, while others will be invalid, depending on their spatial representability. By adding as semantics the spatial representability in Euclidean space, Polyhedral Computing becomes an NCS.

3. Geometric expressions

Geometric expressions generated by Polyhedral Computing can be complex as they are combinatorial in nature, as shown in Fig. 3.

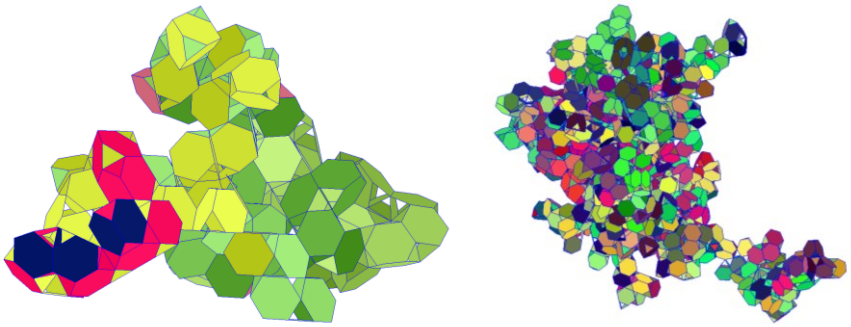

Figure 3. 100T modules, 1000 modules.

The architecture of Félix Candela fits perfectly with this workflow, as he designed an initial constructive system, and applied multiple variations to it. The figures 5 and 6 shows the variations of the inverted umbrella adapted to different projects.

4. Connections between Polyhedral Computing and architecture

A historical review ([FK], [FML]) of the architectural icon's in terms of spatial volumetric and structural revolutions ([RBF]), reveals profound connection between architecture and mathematics. These approaches use regular polyhedra ([LZ]) at various scales, in terms of spatial volumetric expressions ([DC]), as basic cells of their structural system ([HSFKSTBP]). Moreover, the vision of the future presented in ([JC]) is revealed as *Platonic World*.

Today's spatial research in architecture is in its infancy as implied by Toyo Ito's *Architecture Museum* in Imabari, Japan, built in 2011.

5. Conclusions

Polyhedral Computing is able to become a complex instrument for developing spatial intelligence, educational programs and architectural research.

Figure 4.

This proposed spatial cognition framework offers new tools for spatial research and education, with a focus on applications to architecture:

- allows scale-free analysis and investigation of spatial structures,

- utilizes a finite number of polyhedra and a finite number of connectivity operations iteratively,

- it resembles the living cell at metaphoric and physical level, as part of the newly created artificial space,

- it encapsulates the essence of creativeness,

- it inherits its harmony from the perfectness and harmony of the Platonic and Archimedean solids,

- it leads to cost-efficient solutions from the point of view of materials, transportation, deployment and reusability.

The architects became, more often today, when the speed of life increases exponentially, highly aware intellectuals, citizens and artists. Their mission is to create the artificial environment where the harmony between technology and life is achieved and maintained perpetuum.

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Biography

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She is also very fond of interdisciplinary research, that will allow architecture to benefit from knowledge in other sciences and conversely. In this respect, Flavia incites you to fruitful collaborations. via_fl@yahoo.com.

Retroactive Bachelor: Not for architects only

The reform of the bachelor in Architecture at Politecnico di Torino as a case study of critical pedagogy toward a new opportunities for architectural graduates

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Synopsis

In Europe many graduates in architecture leave the architectural sector, and the closely related sectors as building industry, planning field or interior design, immediately after their studies or after some years of professional practice. This paper presents two different actions: the first one is aimed to counteract this trend reforming the bachelor program in architecture in order to form architects able to better fitting the market demand, not only in the architectural sector, the second one is a research proposal to qualitative analyze the described trend in order to exploit the potentialities of architectural studies in other sectors such as creative industry, communication, management, entrepreneurship and many else. Both actions start from a retroactive approach considering the importance of the impact that architectural education can have in multiple fields far from the building sector through the interdisciplinary approach that characterizes the design pedagogy.

Key words: Pedagogy, Bachelor, Opportunities, Creative industry, interdisciplinary approach.

1. Retroactive Architect

Italy has one registered architect out of four hundred inhabitants, while China has one registered architect out of four hundred thousand inhabitants. This disproportion looks even bigger if it's compared with the building sector activity in the two countries. In the meanwhile a significant proportion of graduates in architecture, as well as registered architects, works in sectors far from the architecture practice and building sector. It will be easy to say that this second phenomenon is due to the scarcity of jobs in the architectural field, but this option cannot explain why so many students are choosing the architectural studies since they perfectly know the disproportion between the number of architecture graduates and the jobs available in the architectural sector. The challenge is to imagine that students choose the architecture education because they guess that this can be a good training for others career opportunities. New opportunities as "retroactive architects", as we might define these trained architects for their impact on sectors far from architecture, where they can deeply innovate in term of methodology and approach, through their "architectural" skills, combining technical knowledge, artistic and social sensibility with soft skills related with team working, complexity management and multidisciplinary approach.

2. Multidisciplinary approach: twenty years' tradition of the school of Architecture in Torino

The architecture program, that follows the Bologna's process guidelines, at the Politecnico di Torino is strongly multidisciplinary. All the ateliers, both in the bachelor and in the master program, consist of more than one discipline, often more than three. This approach, quite uncommon in the Italian panorama at that time, has been very appreciated by teaching staff as well as from the students. The multidisciplinary nature of the design experiences gives the students a small overview of what the professional life is, but, at the same time, it makes them aware about the influence that architectural design approach can have on a wide range of societal phenomenon and other fields such as planning, structural engineering, constructive industry, history and restoration. Growing in the multidisciplinary perspective, students acquire the capability of dealing with others disciplines and others professional profile and very often develop their interest for topics situated on the boundaries in between architecture and the disciplines mentioned above. In this frame the Bachelor was defined as "professionalizing", giving direct access to the profession. In Italy, actually, a professional title, "junior architect", is delivered to bachelor's graduates who pass specific and very selective exam.

3. The new Bachelor in Architecture: not only for architects

The project for the new Bachelor in architecture moves from two main observations. Firstly, nearly 90% of the students continue their studies[1] attending a master program. Therefore the bachelor should be no more professionalizing as it used to be from the Bologna's process. Twenty years after Bologna's reform it's possible to observe that in Italy very few bachelor

[1] XIX Rapporto Alma Laurea - http://www.almalaurea.it/

graduates become registered junior architects, as their career perspectives are not really satisfactory, 20% of them are still unemployed five years after the bachelor diploma[2]. This data show how the bachelor needs to be considered as a fundamental degree to be followed by a master degree. In this frame, the Politecnico of Torino conceived a new Bachelor aimed at training students to face complex phenomenon and concepts giving them strong fundamental knowledge. Therefore bachelor in architecture focus on spatial and formal issues through their relationship with social, constructive, technical and historical issues. The three years of the program are centred on five ateliers, one for each semester excepted the first one dedicated to fundamental knowledge, that deal with different topics with an increasing level of complexity. The first year atelier explores the concept of space and the role of representation in its conception process, as well as the constructive meaning of architectural space. During the third semester students deal with territorial scale exploring the interaction between architectural design and urban planning, immediately after, in the fourth semester they undertake a design experience where architectural design, building construction and structural engineering come together. The fifth semester is dedicated to the theoretical insight with the atelier on architectural theory directly connected with the parallel atelier centred on architectural and urban history. Finally, in the sixth and last semester, students are asked to choose their atelier among a wide range of ateliers offered by the school. Each atelier proposes the combination of architectural design with one or two different disciplines considered as an aperçu of future, possible, study programs. Each atelier can be freely combined with a selected list of theoretical courses to build up a "cluster", namely a synergy between design, technical issues and theoretical insights on specific interesting topics.

The design of this new program clearly aims at developing soft skills as critical thinking, autonomy, interdisciplinary approach, management of complexity. Design training is a powerful tool in developing these abilities, together with spatial sensibility and technical awareness, producing a graduate able to get oriented in the master programs not only directly related to architecture. The acquired competences are also valuable in other professional sector.

4. Architecture graduates and their "Afterlife": a research program to follow up architecture European graduates

A growing body of evidence suggests that a significant number of architecture graduates are increasingly likely to join other industries or assume other roles than become practicing architects. In addition to this, reports suggest there exists a mismatch between the skills that architecture students are taught and those demanded by industry. The full extent of this phenomenon at EU level is unknown as are the implications for the future academic structure of architectural studies and their relationship to the industry. The research proposal, that as a part of a team within the EAAE's Education Academy we have submitted for European funding, seeks to address this missing information by capturing and analysing the professional destinations of EU architecture

[2] XIX Rapporto Alma Laurea - http://www.almalaurea.it/

graduates including those that failed left their courses without qualifying. The main aims of the research proposal are:

1. To map the extent to which this phenomenon extends across Europe, EU members states, regions and countries including The UK, Belgium, Italy, Croatia, Spain, France, Germany, Portugal, The Netherlands, Greece and Sweden.

2. To pinpoint which industries architecture graduates are migrating towards, and their scale of influence within these sectors.

3. To identify where sustainability and digital skills rank within the skills identified as most transferable between the professions captured within the study.

The hypothesis underlying the research is that architectural education might be considered as an optimal training to work within the creative industries sector and in other sectors. The creative industrie refers here to a range of economic activities which are concerned with the generation or exploitation of knowledge and information. Howkins' creative economy comprises advertising, architecture, art, crafts, design, fashion, film, music, performing arts, publishing, R&D, software, toys and games, TV and radio, and video games.

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Biography

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The effects of an uncertain project

Testing the device of masterplan as habitat of negotiation

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Synopsis

In the last years we are witnessing a new interest to architecture as a social practice and the tendency to acknowledge the collective nature of design. From this point of view the design activity needs to be focus more on the performative nature of the process and on the objectives to produce multiple effects, physical and not only. The design process involves many players (professionals, administrations, citizens …) with different roles (promoters, beneficiaries, co-designers, facilitators …).
The role of architectural design is repositioned within a participatory multi-actor development process and, coherently, its tools seem to need innovation. The masterplan can be a fertile one. Its potentialities are investigated in the West Road Project, a device for activating networks and public spaces through the diffused neglected areas in the west part of the City of Milan. It is a research in action led by a multidisciplinary group of researchers and staff of local cooperative. The masterplan is imagined as a habitat of negotiations through the issue of space that host the multiple events coming up from territories and give them a broader framework of meanings. It is not a a fixed planimetric scheme of volumes. At the same time the purpose is to encourage to action the territories through the participatory process.

Key words: Masterplan, negotiations, uncertainty, social process, contingency.

1. Introduction

The issue of marginal neighborhoods is an urgent theme on the political agenda of many European cities and of the European Commission itself. Europe in a changing world – Inclusive, innovative and reflective societies is one of the main challenge of Horizon 2020, a program that promotes researches aimed at the investigation of initiatives to reduce inequalities and social exclusion[1].

Disadvantaged areas are the focus of these activities, places that are characterized by strong physical deterioration of places, scarce accessibility, lack of social assistance and a high concentration of fragile populations – old people, unemployed and foreigners. The stereotyped way of thinking about these places often simplifies their complexity and confuses even more the articulated phenomena. However, these areas are full of spatial resources and of social and technical skills that in many cases trigger a positive creative vivacity.

As a result of the late economic crisis, the experimentations and promotion of bottom-up initiatives are increased, especially around the theme of common goods. Unfortunately, this design boost often dissolves itself into individual events incapable of shaping and feeding a recognizable project for places. The transformation of these places pushes to investigate some methodological devices more inclusive of different disciplines and actors, more ductile and interactive at all levels of the reactivation process. A tool that is able to adapt itself to the contingency and to act successfully on the collective spaces.

2. Design effects as outcome

The contemporary complexity is characterized by “turbulence and uncertainty”, the condition in which “the most things could happen – maybe all – but nothing it can be surely done” (Bauman 2016, 13). From the architectural design perspective, to face this complexity it seems necessary to adopt an innovative attitude focused more on the production of effects (Armando, Durbiano 2017), both physical and social, than on the predictable outcomes. No longer the design has to advance solutions to a set of given questions, but it becomes more and more a “creative act of problematization” (Stengers 2014, 193). A projective act in which “the problems you choose, or frame, and even invent, do not exist independently of you, but also determine your mode of practice and impact upon your environment, the habitat in which you are undertaking your work” (Frichot 2017, 147). We move from a problem solving approach to a problem setting one.

The project becomes a process of disciplinaries contaminations, sensible to what society expresses into an inter-active design. It orients the treatment of the complex issues, legitimating itself by addressing a series of conflicts and negotiations (Yaneva 2012) between the many players involved. The design activities, seen as an ecology of practices (Stengers 2005), becomes the habitat in which share the knowledges in a collaborative approach. The outcomes should be an open project, capable of redefining itself according to the contingency. In an outlined framework the implemented actions can seize the

[1] There are other initiatives of EU that focus on marginal issue as UIA and URBACT

opportunities without being forced into predetermined timeline charts. At the same time, they are often pushed to reinterpret creatively the bureaucratic procedures. The opportunities and resources available at a given moment feed and redirect the following steps of the full process.

In this perspective the role of the designer, or better of the design team, turn to be central. How can design trigger users' initiatives in neighbourhood transformations, making them more social resilient and self-renewable living areas? This becomes the challenge for the designers. Together to other stakeholders and through the issue of the space, they are pushed to manage and feed the participation process and the advancement of contents in the project. "(The expert) is required to structure a process of intervention on the content, building frames of reference, interpreting the territories, triggering through the proposition of scenarios, design forms based on social interaction, translating informal practices in the language of policies, supporting the consolidation of dimensions of management, approaching promoters to additional resources, promoting the dissemination and transferability of experiences, reinforcing links and networks of the local to the urban and beyond " (Fareri 2009, 203).

3. The device of the masterplan. Is it liable to innovation?

The repositioning of architectural design drives to re-think the power of the documents produced. Among all the disciplinary tools, the masterplan seems a fertile one of innovation to support the effects' project. The masterplan here is not thought as a fixed planimetric scheme but a mechanism that each time modifies its format finding the most suitable one according to the contingency.

The potentialities of this device are investigated in the West Road Projects (WRP)[2], a research-in-action promoted by a group of researchers of Politecnico di Milano and a network of local actors aimed at activating social processes in common spaces of the western outskirts of Milano.

The focus area is characterized by the critical presence of social housing blocks and the via Novara, a historic radial city road thought just as a traffic tube. At the same, time this is a place reach of potentialities such as urban parks and a strong network of citizens groups.

The starting point is a punctual query of Italia-Nostra (project's partner): promote a cycling system to connect the city center and the parks. The research enlarges this objective through a participative design process that engages also the on-going local micro-transformations. The idea is to consider the road as a device to reactivate a swarm of neglected spaces and to promote the local cycling connections.

The masterplan is adopted as a tool to host the heterogeneous events, *bottom-up and top-down*, and to give them a broader framework of meanings. The participatory process encourages the territories to be active and prepositive. In this view, the masterplan is a palimpsest (Corboz 1985) that

[2] The WRP is a tow years research project started in March 2018. It is financed by Polisocial, the social responsibility programme of Politecnico di Milano, sponsored by Municipality of Milan and some companies with technical co-financing.

coordinates and orients the actions of a variety of actors in an inclusive and upgradeable manner, capable of drawing a long-term strategic structure.

Can the masterplan be a habitat of negotiation between the different intentions of the many involved actors? In which way can it force users to act? How can architecture contribute to involve other stakeholders in the process through the issue of form? These are the questions around which the research moves.

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Biography

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The learning loop method applied to urban living labs toward learning communities

The pilot case of Verona inside the LOOPER project

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Synopsis

This brief writing wants to show how to activate the critical dimension of communities by using the learning loop. It is shown how applying this method to urban living labs helps the community to improve co-design of urban spaces, and it also teaches citizens how to evaluate the impact of their decisions.

The experience here described is fostered in the framework of the LOOPER project, co-funded under the JPI Urban Europe program, in a pilot case in the south part of Verona. Citizens here are called to work on the urban issues of air and noise pollution. In this experimentation citizens learn how to: create dialogue with policymakers; comprehend all the aspects of urban issues; understand which type of sensors exist and how to use them; analyse which actions can be applied to urban fabric.

Key words: co-design, co-monitoring, learning loop, urban living labs.

1. Introduction

LOOPER, Learning Loops in the Public Realm, is a European Research Project funded under the JPI Urban Europe. The aim of the LOOPER project is to build and validate a participatory co-creation methodology based on "learning loops" inside Urban Living Labs (ULLs). It has the ambition of creating a new way of decision-making which bring together citizens, stakeholders and policymakers that iteratively learn how to address urban challenges.

In the pilot case of Verona – that we describe here as an application example – the project focuses on air quality as it is a real and concrete problem of the city and it is a common problem that is increasing exponentially in many European cities[1]. Besides the real situation of pollution, another problem is the perception that citizens have of it. In fact, what people perceive is not always corresponding to the real situation: researches demonstrated how perception is usually distorted by social provenience, neighbourhood conditions, presence or absence of greenspaces, educational level[2].

2. Interdisciplinary education

The concept of the LOOPER project comprises three sequential planning stages conducted inside ULLs (Fig. 1): 1 - Identification of problems (urban issues); 2 – Co-design; 3 – Implementation and monitoring. This three-stage process will be conducted twice in order to trigger a learning loop.

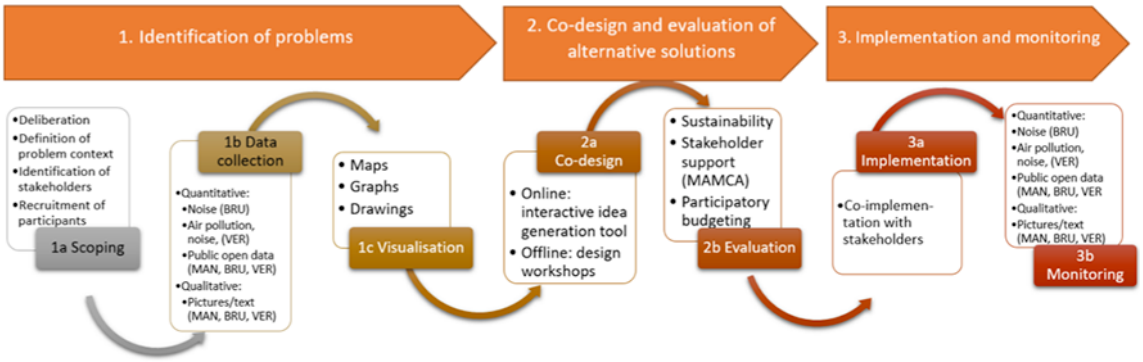

Figure 1.

Furthermore, the LOOPER project brings two "learning stages" inside ULLs, that will take place during each one of the two Learning Loops (Fig. 2).

[1] See Air quality in Europe – 2017 report
[2] See Bladwin Johnson, 2011; Oltra and Roser, 2014; Saksena, 2011

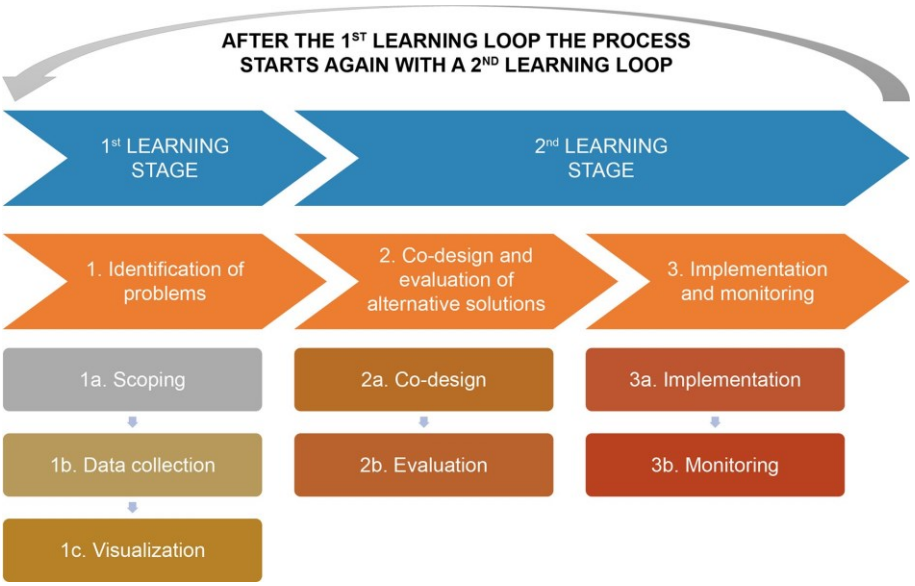

Figure 2.

The first “learning stage” creates awareness on urban issues and on the status of problems through some consciousness activities. The first focuses on the scoping of issues done during ULLs meetings organized with stakeholders. Here citizens can learn what others perceive as issues, and which matters are real or not. Following to this first activity starts the co-monitoring. This can be done by asking citizens to combine the issues they found with the places to be monitored and with the consequent positions where they want to place sensors. As soon as the co- monitoring is ended, stakeholders are called to analyse the information that they collected through an interactive geo-platform that visualizes the data gathered during co-monitoring.

The second “learning stage” covers the activities of co-design and evaluation of urban mitigation measures inside the ULLs. The selected solutions are then implemented in the city, and the results are monitored with a second monitoring campaign. Here citizens, but also administration, asses the results of their activities and increase knowledge on possible solutions to urban issues. From this moment, the whole process is repeated creating a second loop that learns from the first one.

The co-design process based on ULLs and on the learning loop, which is proposed by the LOOPER project, has also the intent, or pedagogical ambition, of transforming negative feeling of anger and protest of citizens in positive energies of proposition and participation. This process is important because most negative feelings towards policymakers stem from a low knowledge on urban issues by citizens, and this leads to an inertia towards improvement measures by public administrations[3].

[3] See Legrenzi, 2016

3. Application

3.1. The area

The case of Verona is applied at the neighbourhoods of Borgo Roma and Golosine-Santa Lucia localized in the south part of the city (Fig. 3) where it was established and developed an Industrial Agricultural Zone. The consequence was the rapid growth of two residential zones on the sides of this large area. The neighbourhood is clearly separated from the historic city by the railway infrastructures, while an important road axis that connects the highway with the old town divides the city into two residential parts without a real urban centre and mutual relations.

Figure 3.

3.2. The research work

The setting of the framework of issues for the pilot case took place between November 2017 and February 2018. During this period, it was possible to determine with stakeholders which where the urban issues to be considered (air and noise pollution). It was also possible to choose with them where and when to make the monitoring (Fig. 4), held using mobile stations of the national environmental agency and low-cost passive sensors.

The decisions about where and when to make the monitoring campaign

where taken within three meetings where both citizens and policymakers participated and collaborated to reach a final result which was satisfying for everyone. In the following figure (Fig. 5) it is possible to see the places where the stakeholders proposed to position some sensors, by their houses or close to public buildings, and where the proposed spots overlap with criticalities.

Figure 4.

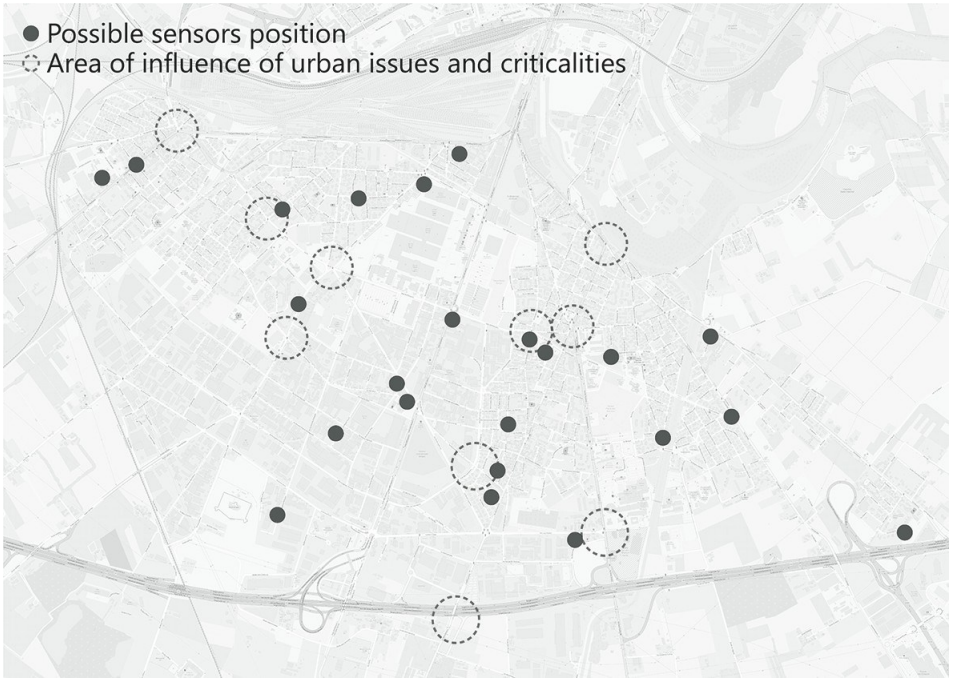

Figure 5.

After this process of scoping of urban matters, and of questioning on where to position sensors, it was evaluated which places where suable for mobile stations and which could be used to position low-cost passive sensors for air pollution. In this activity stakeholders were helped by giving them the tools which where necessaire to choose wisely (i.e. knowledge about the issues found during the scoping, competences on sensors and on the laws that regulate air monitoring). The first monitoring campaign took place between February and April 2018 (Fig. 6).

Figure 6

3.3. Next steps

After the co-monitoring stage the process will proceed to the co-design and to the evaluation stages. During the co-design stage citizens will learn how urban spaces can be changed to improve the neighbourhood, and what is possible (or not) to do in an urbanized area. After the implementation of the selected mitigation measures, citizens will be called to evaluate their work with another campaign of monitoring to see if the solution ideated and chosen during the co-design improved the situation (evaluation stage).

4. Conclusions

The first learning stage is almost concluded, but it was already possible to gain interesting results. During the meetings it was possible to notice how, faced with the duty of choosing where to position sensors, citizens had to think back on their views and had to deepen their knowledge on pollution related issues and on what produces it. What is expected now is, during the co-design phase, to establish a process of collaboration with the public administration (bringing contributions and improving urban management), and to lift the clash that there is nowadays, which generates inertia and failure to solve urban issues.

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Biography

Chiara Scanagatta. PhD student at the School of Doctorate Studies of the University Iuav of Venice in Italy. She took her Master Degree in Innovation in Architecture at the University Iuav of Venice, she passed the government exam and licensed as a profession architect.
She is taking her PhD in “New technologies for the Territory, the City and the Environment” and her work is focused on participatory design, with an eye to air quality and noise pollution related issues.
She works as architect within renovation projects of museums and of directional buildings, and she is collaborating in a participatory design project for the renovation of a City of Sport area in the Province of Venice.
She also collaborated with the University Consortium for Applied Research (CURA) of Padua.

Massimiliano Condotta. Assistant professor of Building Technology at University Iuav of Venice. He holds a master’s degree in architecture and a PhD in “New Technologies and Information for the City, the Territory and the Environment”.
Since 2000 he works at various academic research projects focusing on collaborative e-learning systems, on the application of IT in architectural and urban design, on the organization and management of urban data through knowledge management systems, on sustainable building design and technologies.
He is member of the International Terminology Working Group of the Digital Art History Access Department, Getty Research Institute, Los Angeles, California.
Has been adjunct professor of Urban Design at Accademia di Belle Arti di Venezia.
Works as professional architect in relevant architectural projects regarding renovation and restoration of historical buildings and complex urban environment.

Villages in search of an author

Italian ghost towns reactivation: strategies and design

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Synopsis

The phenomenon of abandonment is widespread all over the world. All the urban realities, even the most excellent from the point of view of the administration of the territory, present the characteristics of the dismission. Abandonment can involve an isolated building, a part of the city or an entire urban reality, a village or a network of villages. It is a complex phenomenon in constant change that depends on geographical, social and political aspects of a place. In the case of Italian territory, the phenomenon of abandon affects above all the medieval villages diffused on the entire peninsula, not far from the artistic, cultural an architectural heritage, valued and celebrated all over the world for its beauty. The topic of this work are the sleeping beauties (A. Mocciola, 2014), small forgotten towns, small fragments of history and daily life lost in the silence of absence, distant from the institution, hidden from the network of navigators, unreachable mobile, ignored by Wi-Fi. The abandoned Italy is a tourist map read backwards.

1. Analysis

The argumentation is focused on this part of unknown Italy, which risks of disappear, and is accomplished through a project and a possible strategy to bring these places to life, starting with the idea that they represent a cultural heritage and strong identity, and possibly may be an economic resource to be valued. The discussion is divided mainly into two parts, in the first is studied and analyzed the phenomenon with strong attention to the Italian cases and with the intent to collect and unify the fragmented sources on the topic; in the second part it assumes a reactivation intervention applied to a case study.

The study of the phenomenon is spread through a metaphorical journey that runs through the entire Italian territory, which suggests that all around the peninsula (islands included) there are at least 175 totally abandoned villages. In addition to the mapping of villages was carried out a study on the origins of the villages, almost of medieval fortified and located in inaccessible areas for defensive reasons. From a typological and morphological analysis are reported the most recurrent developments, which include *the terranean house, the row house, the profferlo house, the arches house, the wall house and the tower house* (G. Caniggia, G. L. Maffei, 1979), to create a classification for best develop intervention strategies.

2. Dismission

The analysis of decline of the villages shows that the mainly reason is economic, linked to the economic boom of the 50s, and environmental, such as the occurrence of natural disasters such as landslides or earthquakes. Only a small part of the villages have been abandoned for causes related to unfavorable position or social reasons.

The research aims to understand the role of Italian architecture in the abandonment phenomenon. Italian architects, from World War II onwards, have gone along with the trend to depopulation of rural areas through the creation of new urban suburbs, with the explicit intention of recreating an organization that was referring to rural morphologies. Only in 1995 Giancarlo De Carlo create a proposal for *Colletta di Castelbianco*, a village on the Ligurian slopes. The project, visionary for the time, was aimed at the reactivation of the village through the clabing of internet (M. C. Torricelli, 1997). The result was the telematic village, the flagship of the reactivation of the Italian villages. Although in Italy there are some recovery examples of villages, the decommissioned and abandoned heritage in danger of extinction is far higher than that reactivated, and there is no central device (state or government) that it can neither quantify the abandonment nor give directives for recovery.

3. Strategy and design

The intervention strategy concerning the *Val Borbera*, a territory belonging to the Piedmont Apennines, with the specific intent to create a methodological system applicable to similar cases study. The valley is marked by the passage of the *Borbera River* and the occasional rural architectural heritage is

surrounded by an impressive natural landscape that preserves the ancient pre-Celtic and pre-Roman substrate (D. Bottiroli, 2003).

The project proposal focuses on four villages of the high *Val Borbera* area, which represent different types of abandonment: *Carrega Ligure* is a village partially abandoned, *Connio* represents the type of the abandoned village with foundation of new center and finally the ghost towns *Ferrazza* and *Reneuzzi*. The project provides the recovery of existing buildings in compliance with local building traditions and the characteristic materials of the area; every new construction project was thought to be recognizable and reversible. The functions provided for the reactivation include new accommodation facilities such as the spread hotel and productive activities that promote repopulation of the villages also with the participation of new ethnic groups. The economic strategy assumed develops through buying and selling goods and services, and making skillful use of the funds generated by the formation of associations of citizens and European and regional tenders.

The ultimate aim of the research is not just about the study of the phenomenon, but also understanding the reactivation mechanisms and how these can spread to bring to life a national reality and community which is likely to be forgotten.

4. Future

Alessandro Baricco, in its reflection on the “new barbarism” that characterized contemporary, puts tremendous emphasis on the inevitable reason of act from whom, by virtue of their life energy, moves from place to place, creating connections and new relations of meaning and networking (N. Flora, E. Crucianelli, 2013). Create a new network of relationships and meanings for the contemporary is expressed in ordering the knowledge of a surface, new symbolic place that, in contrast to the stated depth, is deputy conceptually accumulation of values in which most of the new generations is recognized. Baricco assume this wave of huge shifting of meanings and then the because of the new structures of the concepts of the new novelty and beauty whit the image of devasting invasion for those who feel the repository of ancient truth; beneficial invasion for those who truly love all the life and accept the change whit the smile of confidence in its obscure logic (A. Baricco, 2006).

In conclusion, this must be assumed by contemporary architects to work consciously and to give life to projects that are integrated with contemporary sensibility. The purpose of this research is to find answers in the common past that can solve the fate of a common future, to rediscover the sense of places (V. Teti, 2004), in many cases lost.

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Biography

Martina Crapolicchio. Born in south Italy, she lives in Turin. Graduated in architecture at the Polytechnic of Turin, she is interested in the architectural and cultural problems of abandoned buildings. Currently she carries out her professional activity collaborating with some architectural offices in Turin.

Mapping Nottingham's identity

A case study on critical pedagogy

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Synopsis

Mapping Nottingham's Identity is a research project based on the collaborative re-imagination of public spaces in Nottingham (UK). Participation lies at the heart of this project; there is no agenda or predetermined outcome. We offer an inclusive and flexible platform to listen, discuss and share di¬fferent points of view and engagement with Nottingham. Our practice, facilitated by Nottingham Trent University, is based on mapping, an essential tool to discover and to present visually how people understand and feel about places and their connection with the community. We have used this method in different contexts and with diverse audiences, outside of the traditional university classroom, to encourage a multidisciplinary and multi-layered account of these places. This critical pedagogy aims at promoting an exchange whereby each stakeholder has something to learn from and to share with others. The idea of "Heritage" is challenged by the concept of "community heritage" and belonging.

Key words: Mapping, participation, community heritage, belonging.

1. Introduction

In June 2016 Nottingham Trent University started a community engagement project, Mapping Nottingham's Identity (MapNotts), which aimed at understanding perceptions of belonging at different locations within Nottingham. The first output of this project, run in collaboration with community stakeholders, was to map Carrington neighbourhood through the eyes (and pens) of the users of the space. This exercise brought about a very interesting understanding and analysis of the locality, as well as the identification of a number of public and semi-public spaces. In June 2017, and a s a result of the analysis undertaken in 2016, a steering group was formed to promote the improvement of public spaces in Carrington, including the Architecture Subject Group and volunteers from Nottingham Trent University, CTARA (Carrington Tenants and Residents Association), Hosta Consulting, Double T, Nottingham City Council and Marsh:Grochowski Architects. This group is facilitating a dialogue with the community in order to explore the potential of public spaces in Carrington.

The focus of MapNotts Phase 2 was to facilitate public consultations, which will ultimately improve Selkirk Way, an underpass that connects the inner centre of Carrington with one of its main commuting arteries and boundaries, Mansfield Road, as a new contribution to 'community heritage'. We conducted a number of focus groups, observations and interviews to get a better understanding of the area. The findings informed the development of four design concepts, including a greener boulevard; framing and sheltering; materiality and the plaza. Ultimately, the designs provided by the Architecture Subject Group at NTU were driven by a desire to make the underpass a destination rather than a connecting path.

The aim of this paper is to present a project born within the community, facilitated by academic stakeholders, applying theoretical concepts, participatory methods and co-design to revitalise the sense of belonging of the neighbours of Nottingham.

2. Main methodology: critical pedagogies and participatory methods

Mapping Nottingham's Identity revolves around participation, co-creation of knowledge and co-design. The main methodology has been discussed in an article in 2017[1], which explores the main tools used in Phase 1 of the project, displayed at Nottingham Central Library (September 2016). In this paper, however, we will explore the main tools used in Phase 2, which formed the core of a second exhibition at the same venue, in December 2017[2] (Fig. 1).

[1] Author., 2017. Creative practices and public engagement. Journal of Artistic Research (JAR) [online], issue 13 [accessed 04 April 2018]. ISSN 2235-0225. http://doi.org/10.22501/jar.147814.

[2] MAPPING NOTTINGHAM'S IDENTITY, 2016. Exhibition [online]. [accessed 04 Abril 2018] Retrieved from: http://mapnottingham.blogspot.co.uk/search/label/Exhibition.

Figure 1.

MapNotts follows the ethos behind Participatory Action Research (PAR), whereby researchers and participants analyse a problem together, hoping to find an action that ultimately improves the situation[3]. Moreover, this approach eliminates the hierarchical differences between researchers and the public, shifting the ownership as co-production of knowledge. In order to ensure this methodology is fully embraced, PAR must include reflection as an essential part of the research, in order to learn from the experience, and influence future developments[4]. In the field of architecture, participation has been understood through different approaches and levels of contribution (information, consultation or decision stages), and at different moments of the process (design, construction and post-completion), including different stakeholders (client, user or general public)[5]. The main difference between these possibilities of participation resides on how it is valued: Participation as an 'end' or as a 'means', raising the value of the built product[6]: "Participation effectively addresses this gap through involving the user in the early stages of architectural production, leading to an environment that not only has a sense of ownership, but is also more responsive to change"[7].

2.1. Monopoly Board

Inspired by the Glossopoli project, led by Prof Martin Philips[8], this tool allowed visitors to assign value (emotional) to places they identified as relevant in Nottingham (Fig. 2). There is a clear correlation between these images and the postcards.

[3] KINDON, Sara, Rachel PAIN and Mike Kesby, 2007. Participatory Action Research Approaches and Methods. Connecting people, participation and place. Oxon and New York: Routledge. ISBN 10: 0-415-59976-8.
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[6] Ibid.
[7] BLUNDELL JONES, Peter, Doina PETRESCU and Jeremy TILL (eds.), 2005. Architecture & Participation. London and New York: Taylor and Francis. ISBN 0-415-31746-0.
[8] GLOSSOPOLI, University of Leicester [online] [accessed 04 Abril 2018] Retrieved from: https://www2.le.ac.uk/departments/geography/redundant-content/research/old-research-older/projects/ConCom/glossopoly

Figure 2.

2.2. Draw a postcard of Nottingham

Visitors were encouraged to participate by creating their own postcards: “How would you represent your Nottingham to your family and friends?” (Fig. 3). The results show how the majority of the participants drew a popular landmark, as a stereotyped image of Nottingham.

Figure 3.

2.3. Intangible heritage

Participants shared their knowledge of memories, traditions and local legends (Fig. 4).

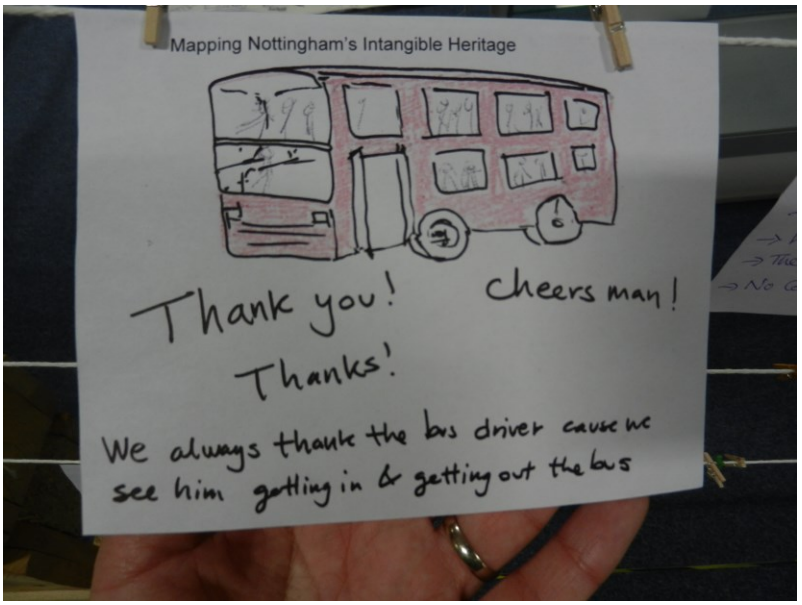

Figure 4.

2.4. Collaborative Mapping

This method enabled participants to decide what should be included, and to negotiate their contribution in the context to the drawings already done (Fig. 5).

Figure 5.

3. Conclusions

The aforementioned methods of participation and co-production of knowledge have enabled a more emotional connection to the built environment, as well as a sharing of experiences and memories with those who took part in the workshops, as well as those who have seen this exhibition in other locations (UK, Cyprus (Fig 6), online). This data is helping us to approach the built

environment and its heritage from a bottom up approach, reinforcing the importance of co-production of knowledge. The postcards keep helping the development of personal strategies to identify value within communities, and the collaborative mapping continues to provoke discussion between stakeholders, challenging ownership and sense of belonging (Fig. 7).

Figure 6.

Figure 7.

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Biography

Ana Souto. Ana plays a key role in the development and leadership of the research modules on undergraduate and postgraduate courses in Architecture. She supervises doctoral students, and is the course leader of the Professional Doctorate in the College of Arts, Design and the Built Environment.
Ana's research interest lies in architecture as a cultural manifestation of national identity. In this context she dealt with the search for national identity in post-revolutionary Mexico, and the connection between identity and architecture in the pavilions built for the 1929 Iberoamerican Exhibition in Seville.
Ana is currently involved in an interdisciplinary project which deals with ideas connected with identity, memory and culture, using a participatory methodology. This project aims to show the role of culture (with a special emphasis in art and architecture) in promoting a connection between current issues of our times and the past.

Architectural Interior as Phenomenological Matrix

Synergies and readings between architectural design and principles of Sensitive

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Synopsis

Trough the concepts of experience and sensitivity, Interior architecture and Phenomenology enable a mutual dialogue that suggests different interpretations. The need for a multidisciplinary approach to knowledge lies in the fact that these two disciplines meet and generate a further critical reading of the surrounding world. This contribution, divided into four sections, presents the points on which a critical and creative pedagogical mode of the architectural project is based. After addressing, in a historical-theoretical context, the fundamental links between the methodological approach of human sciences and the methodological approach of the architectural project, the paper argues our interest in interior architecture and our focus on a coincidence that is intertwined with the element of sensitivity. We afterwards focus on the idea of haptic space as an example of a project that springs from a creative choice and not from an abstract rule, to end with some pedagogical applications.

Key words: Interiors, Phenomenology, Sensibility, Multidisciplinary.

In recent decades, the mutual interest between Architecture and Philosophy has manifested in many ways: on a side, the philosophers' interest for architecture focused on concretizing the theoretical aspects that respond to concrete and necessary needs; on the other, architecture seeks the philosophy of answers for an epistemological refoundation following the crisis of the Modern Movement. These two first points represent a reciprocal and synergic relationship between two doctrines that are increasingly combined both in a theoretical context and in a pragmatic one. The multidisciplinary approach, which this study wants to highlight, is the basis to constitute a critical and creative pedagogical mode that is a way to further experiment the discipline of human sciences through the strong influence of architecture.

1. Architecture and Humanities

In a first historical-theoretical framework, the fundamental and historical steps of the synergy and the multidisciplinary exchange of a critical dimension that encompasses the discipline of architecture and philosophy are highlighted by the fundamental characteristics of the project structure as a syntagm for the methodological approach of human Sciences. Design is necessarily influenced by the fundamental sign of utility and tectonics that, coming from a surrounding reality, influence the architect in the freedom of lateral thought and of the different variables involved in the design processes. This means that even though the fundamental principles of the discipline are at the basis, there will always be the possibility to change the idea of the rules themselves by means of a gesture. This strong correspondence to the reality assumed by Architecture offers us a very interesting reading of the area of Philosophy that includes Phenomenology, that is, the doctrine that deals with the phenomenon as a surrounding reality.

2. Attitudes of the Interior

Looking in this way at the synergy between architecture and philosophy, it is surely possible to trace the contribution of Architecture tout court to phenomenological thought. But above all, we would like to do so also with Interior Architecture: through the concepts of experience and sensitivity, it epistemologically corresponds to the fundamental concepts of Phenomenology which, as coined by the Wolfian school, is the description of what appears and therefore of what exists.

Interior architecture addresses the radical nature of architectural space. Architecture is thus understood as an unitary chain in which internal and external converge. Deeply investigating the nature of the spaces, interior architecture defines and verifies in them the meaning of a building. Architecture is therefore characterized by the scale and the depth of a look that binds the shape of spaces and the design of their equipment to the interpretation of the primary and cultural needs and the gestures of the recipients. Architectural space becomes habitable thanks to a continuous connection between the definition of the forms and the interaction of them with the people they are destined to. The needs and the traces expressed by the context are therefore placed at the root of the project, which has a debit of meaning towards. The coincidence with the sensitivity, combined with the instance of reality, brings us back to the field of Husserl's phenomenology, who, in the Logical Investigations, introduces the basic meanings of the phenomenon as a fact and

as an event of reality. Phenomena are inserted, with the subjects, in the space-time world and this is why the Phenomenology is understood as a science of essences. Heidegger used the phenomenological research as a method for his ontology, through which he carried out his philosophical investigation. Likewise, J.P. Sartre and Merleau-Ponty understood Phenomenology as a method for analyzing what manifests itself. The relationship between appearance and being, in phenomenological ontology, can be variously defined or analyzed, and does not model itself on the relationship of appearance and reality but suggests its various nuances.

3. Haptic Space and Design

This approach supports a method that records the social and cultural changes that the design of living spaces must take into account to oppose self-referentiality and indifference to the human scale. Being both physical and cultural, it represents a reason for the society to which the contemporary project is addressed for being extraneous and reject a part of it. These reflections point towards a method according to which it is impossible to believe that the basic principle of architecture is limited to a fixed vocabulary of forms, materials and strategies, while it is more a mobile one capable of renewing itself in every work: the phenomenological approach to architecture is opposed to its de-realization, trying to bring it back to what makes it different: matter, construction, space, immaterial qualities produced by materiality. Finally, to restore the value of an idea of haptic space also stresses the placing of the void, a constitutive element of the architectural work, as a positive value suitable for the unfolding of everyday experience. All this aims at defining a methodological approach proper of the discipline of interior architecture and links it to the roots of the architectural project and the phenomenological matrix.

4. A Sensible Multidisciplinarity

This awareness is the base of didactic and research experiences where, at different levels, the synergy between design and humanist knowledge takes place and that, in different ways, saw our participation.

The multidisciplinary approach to a reading of what can be sensed is the key to define the early relationships between “tekton” and “habitus”. Phenomenol- ogy, moreover, opens to developing research and study processes that are already in place in Europe. Our concrete testimony comes from an historical framework that includes the educational project at the base of the three years degree course in Architecture and Design held at the University of Naples “Federico II” from 2004 to 2010. The course included classes such as Aesthetics and Philosophy of Languages that should be part of the fundamental education of any designer, and, as

in many other European universities, are currently part of the Milan Polytechnic Department of Design courses. These disciplines are the tool to define an ap- proach to the project that shows a hermeneutic relationship among the different elements and the different phases.

The results of the Doctorate in Architectural Interior Philosophy at the University of Naples, since 2011, have powered a continuous and peculiar reflection

upon the identity, disciplinary boundaries and research methods that belong to the design of interiors, in a relationship with the everchanging scenarios and problems of contemporary ages.

Pointing out the characteristics of this kind of relationship helps defining the framework of a pedagogical approach that opens to collaboration among the different disciplines. These subjects happen to be no longer consigned to enclosed scientific sectors but rather fluid and remodulated by means of an actualization of knowledge.

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Biography

Gioconda Cafiero. Architect, he teaches Interior Architecture and Exhibit design at the Department of Architecture of the University of Naples "Federico II". PhD in Interior Architecture at the Politecnico of Milan, he focused his teaching and research activity on the small scale of architecture, on the different ways of living the architectural interior, from the domestic space to the exhibit design, in which he participates at competitions and conferences, seminars and exhibitions, and pub- lishes monographs, essays and articles, in Italy and abroad. He also teaches in Ph.D. course in Philosophy of the Architectural Interior at the University of Naples "Federico II". Among her publications: “Il progetto di Allestimento. Esposizione e comunicazione”, Ed. B. di M., Naples 1999, “Il valore dell’interno tra contemplazio- ne e partecipazione”, Ed. B. di M., Naples 2002, “Museografia. Riflessioni sulla metodologia e l’identità disciplinare”, E.S.I., Napoli 2011 and “La Biblioteca. Uno spazio che nasce da un arredo”, E.S.I. Napoli 2012.

Aurosa Alison. PhD in Philosophy (Université Jean Moulin Lyon 3 - University of Naples “The Oriental”). Starting from a reactivation of the thought of Gaston Bache- lard through the epistemological and the poetic field, she focused in particular the scope of a philosophy of space through the phenomenological aspect of modern and contemporary architecture. She currently collaborates with the Ph.D. in

« Filosofia dell’interno Architettonico » of the Faculty of Architecture and of the Faculty of Humans Sciences of the Federico II University of Naples she and col- laborates with the Course in Aesthetics of Design at the Politecnico of Milano.

Among his main publications: 2014 The Gaston Bachelard Space between science and poetry, (Philosophical Studies, Bibliopolis, No. XXXV); 2017 A. Alison, L'inférence existentielle du rond dans la fonction de l'habiter, Cahiers Gaston Ba- chelard n ° 15. For the Diogene Edizioni she edited in 2017 the volume « Per una Filosofia dell’interno architettonico ».

Relearning from interviews

Dialogic projects as architectural theory

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Synopsis

This extended abstract has the objective to explore the role of the journalist architect who talks with other architects to produce interviews as autonomous projects of architectural theory. In this case it will be tried to justify the pertinence of including this dialogic project as a genre of architectural thought production from the journalistic methodology focused on Relearning from Las Vegas, revising the work written by the architects from their answers and from the approach of the architect who asks as a new confronted account for the critique of architecture. Interviews between architects is a clear example of how the way in which theory is produced incorporating a new model of «project interviewing». This means building another type of knowledge while talking and Koolhaas transfers it to his professional activity in this interview as an illustrative example of the subject matter is intended to point out.

Key words: Interview, project, journalism, Koolhaas, dialogic.

Relearning from Las Vegas (2000) is an interview of Hans Ulrich Obrist and Rem Koolhaas, author of *Delirious New York* (1978), to Robert Venturi and Denise Scott Brown, authors of *Learning from Las Vegas* (1972). The framework is the coincidence of being a contemporary document of journalistic genre developed among architects who are also authors of manifestos referents in anthologies of History of Theory of Architecture. This allows the objective to be explored the role of the journalist architect who talks to other architects to produce interviews as autonomous projects of architectural theory. In this case, it will be tried to justify the pertinence of including this dialogic project as a genre of architectural thought production from the journalistic methodology focused on the content published in *Project on the City II: The Harvard Guide to Shopping.*

Before becoming an architect, Remment Lucas Koolhaas worked in the 1960s at the Dutch newspaper *Haagse Post* as a journalist for a variety of interviews, including those about architecture to Le Corbusier, Wijdeveld and Constant. A background that he later transferred as an architect to his meetings with other architects such as Ungers, Philip Johnson, the Japanese metabolists,..., and as will be seen, Venturi and Scott Brown. These are not chosen by chance but are part of a strategy of reinterpretation where the interviewees that are chosen situate past issues in the present.

With this contextual basis and considering interview models as techniques to approach the way in which is to be conducted, the technique used is question-answer. Unlike other initial interviews by Koolhaas with a greater literary load, this format of questions acquires another consideration because each part is not preceded by a title as a slogan that conceptualizes the content, but rather the division is made by numbering what could be thematic blocks. So if a summary titling exercise not done is made in the interview, it could be the index of a publication but, is it the spontaneity of a conversation that makes it less taken seriously as a project of architectural theory? The naturalness of this genre is what makes it possible to discover unknown information while generating theoretical content for architecture, revising and completing in this case the work written by the architects from their answers and from the approach of the architect who asks.

At first the lead is used to link interviewer and interviewees manifestos introducing the previous hypothesis of the non-existence of manifestos on architecture but books of cities that suppose manifestos. Three strategies are identified: assume an assumption, formulate a suspicion and question by acknowledging the respondent. These are intentionally charged interrogations where the sender takes a position and hints at the answer. These interrogations have a double objective: confirmatory, seeking the agreement of the interviewees to validate their theories if they do not obtain objections and, as is also the case on this occasion, interpretative, with Venturi's position on their rejection of abstract form and the value of electronic iconography today. This answer complete the following question, also addressed but of the opposite type, that is to say, seeking the possible disagreement of the interviewees with a headline: "they proclaim the death of architecture". A provocative method that leads to the interviewee clarifies that what they proclaim is "the death of sculpture as architecture", thanks to the capacity for successive correction that a dialogue offers. It is shown how this format exercised between architects makes it possible to formulate contrasted theory

simultaneously whose conclusions have the credit of the thought contributed by both sides; what is colloquially a «two-for-one» included in the text, which constitutes a new confronted account for the critique of architecture.

Another important figure who characterizes Koolhaas' professional activity also as a journalist is the collaborator. In this case and in a large part of his interviews as an architect he does is Obrist, who has experience interviewing artists and provides the ability to diversify the conversation into other disciplines but also to act as interviewer for the interviewer as well as for the interviewees. Are not used hinge-questions as a transition between the identified themes but is preferred to use with a propositive rather than a compositional function in the journalistic structure. These are statements that add information and generate comments from the interviewee rather than questions from which answers are obtained, but which do give the interviewer the opportunity to set a content on which the interview can then take a free form with shorter hypothetical questions that involve perceptions and reveal facts that the interviewees are reluctant to acknowledge.

Some examples already cited, the particularity of this interview is that the object, which is the information requested, comes from both subjects, which are the emitters, interviewers and interviewees, and the receiver is the architect or non architect reader who consumes the format as a genre. The interest of its question-answer structure is the ability to exchange opinions derived from the verbal act of speech as a code in the form of questions or findings, and not as part of an account. In this case, Koolhaas transfers it as a project to his professional activity with mechanisms derived from the practice of asking a person and thinking at the same time: information gathering, conceptualization, reinterpretation, architectural criticism,... This allows to explore possible ways of practicing architecture far removed from the traditional model that considers the architectural project as a matter of design alone. The intuition to be verified is that this journalistic genre is a clear example of how the way in which theory is produced and is applied to architecture as a significant project from which to exercise the profession, understanding project as the result of the production of architectural thought as a result of dialogic interaction.

Consideration is given to, on the one hand, the character that has been attributed to this journalistic genre practiced among architects for having had a merely instrumental function in producing other texts and, on the other hand, their treatment as independent projects to construct Theory of the History of Architecture in a hypothetical contemporary anthology that incorporates a new model of «project interviewing». This means building another type of knowledge while talking and Koolhaas transfers it to his professional activity in this interview as an illustrative example of the subject matter is intended to point out. A scenario in which the conversations between interlocutors -as Professor Leonor Arfuch points out- which do not seek to reduce complexity but perhaps to delve deeper into it, do not constitute a minor genre in relation to the essay, the treatise or the thesis, but rather a different way of sustaining the word.

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Biography

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Learning from pedagogical experiments

An alternative reading of architectural design studio

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Synopsis

Pedagogical experiments in the second half of the twentieth century are regarded as evidences of thresholds in architectural design education. Many traditional approaches including apprenticeship, reproduction of existing forms and structures are left behind; and many novel approaches became valid including spatial investigations, using tools and new technology, critical thinking, non-linearity, social and political engagement, interdisciplinarity, participation and questioning the role of architecture. From this point, this study aims to illuminate how these pedagogical experiments challenged and transformed the domain of architecture and beyond. In order to address this transformation, the study presents and discusses the pedagogical experiments through the framework of five themes: systematicity, linearity, simultaneity, participation and complexity.

Key words: Architectural education, Design pedagogy, Design studio, Pedagogical experiments.

1. Background

The present form of the design studio traces its origin back to the Ecole des Beaux-Arts and the Bauhaus. Although the Ecole des Beaux-Arts was established in the seventeenth century; it maintained a stance against apprenticeship in the nineteenth century (Cret, 1941). The origin of academic studio culture coincides with this position, requiring learning by doing as a principle focus of architectural education (Anthony, 2011, p. 223).

Design studio culture was introduced to North American schools in the early twentieth century by Paris-trained professors. 'Over 500 Americans attended the Ecole des Beaux-Arts between 1850 and 1968' and they brought the design studio tradition to North America (Anthony, 2011, p. 224). The German Bauhaus School (1919-1933) replaced the influence of Ecole des Beaux-Arts with a design studio inspired by the machine, the mass production and the modern technology (Anthony, 2011, p. 224).

In the second half of the twentieth century, several pedagogical experiments across the globe played a crucial role in shaping architectural discourse and practice. Through these experiments a variety of strategies and tactics had been developed which then influenced the field of architecture and led the following contributors (Colomina et al., 2012). These evidences shows that it is critical to understand and rethink the pedagogical experiments for revealing their influence on architecture and other disciplines.

2. Research framework

This paper forms part of a wider study[1] concerning a comparative analysis of experiments, practices, and positions in architectural design studio. This part of the study covers a reading of the pedagogical experiments from the second half of the twentieth century through five recurrent themes. Selection of the themes was based on the repeating patterns revealed within the scope of the doctoral research and they can be listed as *systematicity, linearity, simultaneity, participation and complexity*.

First, methodical approaches including medium, tools and structural organisations are grouped under *Systematicity*. Second, sequential approaches concerned with the process and temporal subjects are grouped under *Linearity*. Third, simultaneous activities and contexts applied at the same time are grouped under *Simultaneity*. Fourth, participatory processes including actors, activities and intentions are grouped under *Participation*. And lastly, subjects including multiple dimensions such as discovery and atmosphere are grouped under *Complexity*.

3. Themes

For understanding the precedent pedagogical experiments and their impact, forty-one selected case studies from 'Radical Pedagogies'[2] research project are listed, summarised and categorised according to their timeframe,

[1] "Experiments, Practices, and Positions in Architectural Design Studio" is a PhD study by the author.
[2] "Radical Pedagogies" is an ongoing multi-year collaborative research project led by Beatriz Colomina with a team of Ph.D. students of the School of Architecture at Princeton University.

performers, institutions, tactics, and their relation to themes of this study (Fig. 1). Below, the impact of these experiments on the domain of architecture and related fields are explained under five categories.

First of all, tactics of learning with tools can be considered systematic regarding their methodological character. There are some common characteristics such as using physical environments for the spatial investigations; and virtual environments for computer-aided design researches. Model research then extended to virtual environments; and initial attempts in computer-aided design are realised in Harvard GSD pioneering to an innovation such as GIS software.

Second, linear and non-linear tactics were one of the major concerns of pedagogical experiments. Some schools aimed to change curricular structures through non-linear approaches; such as emphasising design process, forming vertical studio structures, promoting remote teaching methods and experimentation. For instance, Architectural Association developed vertical studio teaching with the unit system; Open University promoted remote teaching methods; WSPA set up a non-hierarchical model among students and teachers; IAUS suggested an open plan for students to develop their course schedule.

Third, simultaneity indicated social and political engagements to design studio. Some groups gave rise to change the focus of architecture from sole form-making to a new kind of architecture that is simultaneously connecting with society. In other words, they were combining the content and the context in different realms. For instance, FAU USP was linking form-making to political change; and La Tendenza focused on being socially and politically engaged (Bottazzi, 2012, p.104) with the matters of architecture.

Fourth, several tactics emphasised participation among various actors, in different forms with multiple aims in the history of architectural education; and interdisciplinarity and participatory actions were specifically underlined within these tactics. For instance, Ulm School, Arezzo, University of Stuttgart, MIT and ILA&UD had pedagogical experiments with a collaboration of international multidisciplinary groups in which international dialogue, diversity of participants and heteronomy were the main concerns.

Participation was not only significant in the context but in the actions as well. For example, CIAM members opened their ateliers to students; AD, AA and Polyark organised a bus trip for a two-weeks long live project; Kenzo Tange initiated an architectural laboratory; Buckminster Fuller realised workshops within a network of institutions; the NER group approached to city as a temporary and mobile living organism; TU Berlin and Cornell University focused on city as an architectural laboratory; and Pratt Institute School of Architecture employed design-build projects.

Year	Performer	Institution, Place	Tactic	Theme
1972	Emilio Ambasz	The new domestic landscape exhibition at MoMA	Discussing design process with symbols and social critique	Simultaneity
1952-1959	Enrico Peressutti	Princeton	Confronting with the field	Systematicity
1971-1979	Vittorio Giorgini	Pratt Institute	Learning by building	Participation
1951-1965	Pietro Belluschi and György Kepes	MIT	Encouraging collaboration of visual arts and science	Participation
1976-1983	Aldo Rossi	La Escuelita	Experimenting without control over curricula	Linearity
1947-1952	Ernesto Nathan Rogers, et al.	Instituto de Arquitectura y Urbanismo	Combining pedagogy with research, public institutions and local companies	Participation
1964-1984	Howard Fischer, et al.	LCGSA Harvard GSD	Using new media, innovating interfaces	Systematicity
1967-1985	Nicholas Negroponte, Leon Grossier, Jerome Wiesner	The Architecture Machine Group and The Media Lab MIT	Developing new methodologies	Systematicity
1964-1985	John Hejduk	The Cooper Union	Supporting the independent and personal voice of the students	Participation
1951-1957	The Texas Rangers	University of Texas Austin	Using spatial investigations as a device	Systematicity
1965-1975		IAUS and Princeton	Promoting open-plan for studio organisation	Linearity
1955-1970	R. Buckminster Fuller	Southern Illinois Institute of Carbondale	Organising a network of workshops	Participation
1933-1957	Josef and Anni Albers, et al.	Black Mountain College	Emphasising process against results	Linearity
1972-1980	The Center for Independent Living	University of Berkeley	Developing design concepts for impaired mobility, sight and hearing	Complexity
1972-1976		Facultad de Arquitectura, Universidad Nacional Autonoma de Mexico	Manifesting for a new model with social and political aspects	Simultaneity
1952-1972	Alberto Cruz, Godofredo Iommi, Claudio Girola	Escuela e Instituto de Arquitectura PUCV	Using lived experiences to underline plastic aspects of architecture	Systematicity
1943-1963	Tibor Weiner	Escuela de Arquitectura, Universidad de Chile	Correlating image and project, method and purpose	Complexity
1971-1975	Taller Total	Facultad de Arquitectura y Urbanismo, Universidad Nacional de Cordoba	Focusing on changing role of architecture in the developing areas of the world	Complexity
1962-1969	Vilanova Artigas	Faculdade de Arquitectura e Urbanismo da Universidade de Sao Paulo FAU USP	Linking form-making and intention to political change	Simultaneity
1948-1973	Kenzo Tange	Tange Lab	Initiating an architecture laboratory	Participation
1975-1981	Katrin Adam, et al.	The Women's School of Planning and Architecture WSPA	Learning from students	Linearity
1959-1968	Enzo Frateili	HfG Ulm	Forming an international multidisciplinary group	Participation
1957-1968	Alexei Gutnov, the NER Group and Giancarlo De Carlo	Moscow Institute of Architecture MARKHI and Triennale di Milano	Seeing the city as a living organism	Participation
1976	Aldo Rossi, Bruno Reichlin, Fabio Reinhart, Eraldo Consolascio	ETH Zurich	Assembling the images of collective memories, places, and building	Systematicity
1974	Alvaro Siza and the SAAL("Local Mobile Support Device")	Faculdade de Arquitectura da Universidade do Porto	Bridging between the local organisations and architecture with students	Participation
1971-1990	Alvin Boyarsky	The Architectural Association	Promoting vertical studio teaching	Linearity
1973	Peter Murray, Cedric Price	AD/AA/Polyark	Triggering a dialogue between architecture schools and local communities through a live project	Participation

Year	Performer	Institution, Place	Tactic	Theme
1964-1990	Frei Otto	Institute for Lightweight Structures at the University of Stuttgart (ILEK)	Providing a collaboration between architects, engineers, biologists, anthropologists, and historians	Participation
1953-1968	Inge Aicher-Scholl, Otl Aicher, Max Bill, Tomas Maldonado	Hochschule für Gestaltung (HfG)	Working on scalelessness	Systematicity
1965-1977	Oswald Mathias Ungers	TU Berlin and Cornell University	Considering city as an architectural laboratory	Participation
1963-1973	Archizoom Associati, 9999, Gianni Pettena, Superstudio, UFO, and Ziggurat	Universita degli Studi di Firenze, Facolta di Architettura	Occupying the city plazas with temporary installations	Participation
1963	Ludovico Quaroni, Giancarlo De Carlo, Aldo Rossi, Manfredo Tafuri	The Arezzo Course	Organising a collaboration with sociology, economics and geography	Participation
1976-2003	Giancarlo de Carlo	International Laboratory of Architecture and Urban Design ILA&UD	Proposing interventions for real sites	Participation
1964-1971	Leonardo Mosso and Laura Castagno	Politecnico di Torino	Promoting working on dynamic and virtual environments	Systematicity
1961,1963-1979	Bruno Zevi	Istituto Universitario di Architettura di Venezia IUAV and Universita di Roma	Re-interpreting of historical examples	Systematicity
1969	Utopia e/o Rivoluzione	Politecnico di Torino	Questioning the role of architectural education for a revolution	Complexity
1967-1970	Guido Canella	Politecnico di Milano	Making macroeconomic and macro urban analyses in the field	Systematicity
1959-1961	Carlo Cocchia	Politecnico di Milano	Making in-depth analysis of existing buildings	Systematicity
1949-1956	CIAM Summer School	Venice, Italy	Increasing foreign exchange programs and participation of practitioner architects	Participation
1976	The Open University	37th Biennale di Venezia	Promoting remote teaching methods	Linearity
1963-1971	Aldo Rossi	Istituto Universitario di Architettura di Venezia IUAV and the Politecnico di Milano	Transforming design studio as a research device	Linearity

Figure 1.

Fifth, the complex role of architectural education and organisation of studies were emphasised. For instance, at the exhibition entitled Utopia e/p Rivoluzion, there were two main opinions about the role of architecture: revolution and intensive use of technology. Moreover, La Tendenza aimed to enhance the discipline's functional role within the contemporary technological and socioeconomic condition (Scott, p.49) with the belief that architecture had a political role to improve and shape the society (Bottazzi, 2012, p.104).

4. Findings

Listed pedagogical experiments are then graphically represented on a timeline according to five categories (Fig. 2). This diagram shows that participation is the most popular theme since the late 1940s. It is followed by systematicity which is mostly emphasised between the 1950s and the 1990s. Linearity is the earliest theme based on the traces from the 1930s. Complexity is a rarely employed between the 1940s and the mid-1980s. Simultaneity is the least preferred theme that is emphasised between the 1960s and the 1980s.

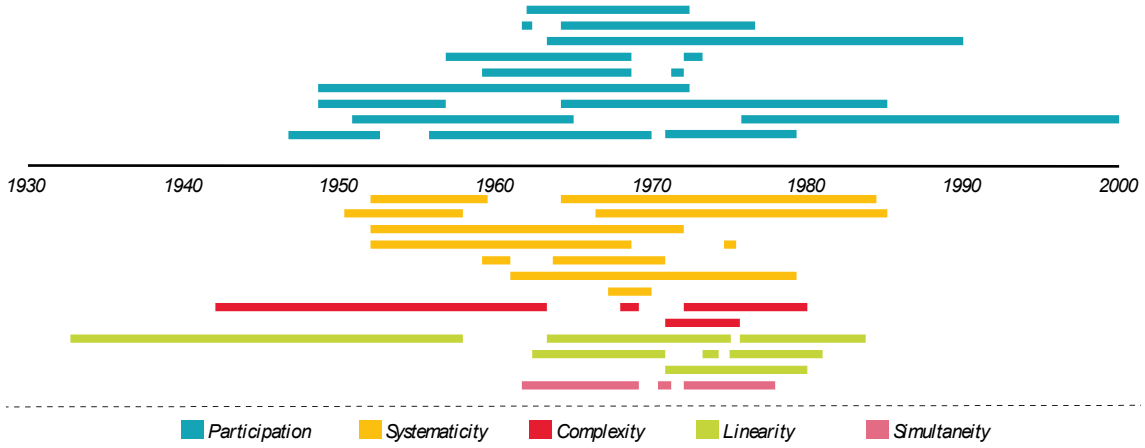

Figure 2.

It is important to acknowledge that the majority of pedagogical experiments were employed between the 1960s and the 1970s including primarily participation and systematicity by

– confronting with real life situations,
– learning by building,
– providing collaboration of visual arts and science,
– including public institutions and local companies,
– using new media, innovating interfaces,
– developing new methodologies,
– supporting the independent and personal voice of the students,
– organising workshops,
– using spatial investigations and live projects,
– forming international multidisciplinary groups,
– promoting to work on dynamic and virtual environments, and
– encouraging foreign exchange programs.

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Biography

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Currently, she teaches at MEF University Faculty of Arts, Design and Architecture, where she coordinates the Architectural Design Graduate Programme. Her research and teaching interests include new pedagogies and new production techniques, living laboratories, design-build studios, bottom-up approaches, co-create, discovery and experimenting in architectural design studios

The City as a Studio

Architectural Education through Bodily Experience

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Synopsis

Architectural knowledge has a dynamic character and can be discovered collectively during architectural education. The place of this discovery and production process can be considered as the “studio” and this studio doesn’t have to be limited in a building. To extend the limits of the studio to city scale creates new opportunities both for the students and the locals. Visiting different parts of the city and converting those places into a studio triggers encounters. Every encounter is a creative and productive act. As a course of its nature, the city is the place of confrontations and encounters. Being, producing and discussing in the city creates an atmosphere where intellectual, imaginative and creative encounters emerge. This emergence can be considered as a flash-mob. Flash-mobs demonstrate the power of bodily experience and highlights the importance of performativity. Each student constructs a mental and muscle memory by his/her own bodily experience during the studio hours in the city. This experience let us to create an extra curriculum such as historical, socio-economical, natural and cultural aspects and everyday life practices of the place. In this paper, I would like to discuss my way of teaching as a retroactive research. I prefer to use the city – Istanbul – as a studio and visit different parts of it for my courses. In this way, an architectural course turns into a retroactive research based on bodily experience. Each event of perception opens up to its own world and the world of perception is merged with the real world itself. When you use the city as a studio, the dynamic character of architectural knowledge unfolds itself and extends its content. In this critical pedagogy, architectural education becomes interactive between the city users and the students and transforms both of them.

Key words: Architectural education, architectural studio, bodily experience, encounters, atmosphere.

1.The City as a Studio: Architectural Education through Bodily Experience

The architectural knowledge is not fixed. It can't be learned merely by reading certain books and studying particular subjects. Instead, it has a dynamic character that is open to change and suitable for collaborative production. The production of architectural knowledge is a collective process in which both the professor and the students take an active role.

In this context, the place of the production of architectural knowledge – that I call "studio" – gains a significant importance. The studio is not a physical space like a classroom in a school, but rather an atmosphere[1] where intellectual, imaginative and creative encounters[2] emerge. In order to increase the amount of encounters, the limits of this atmosphere can be extended to city scale (Fig. 1).

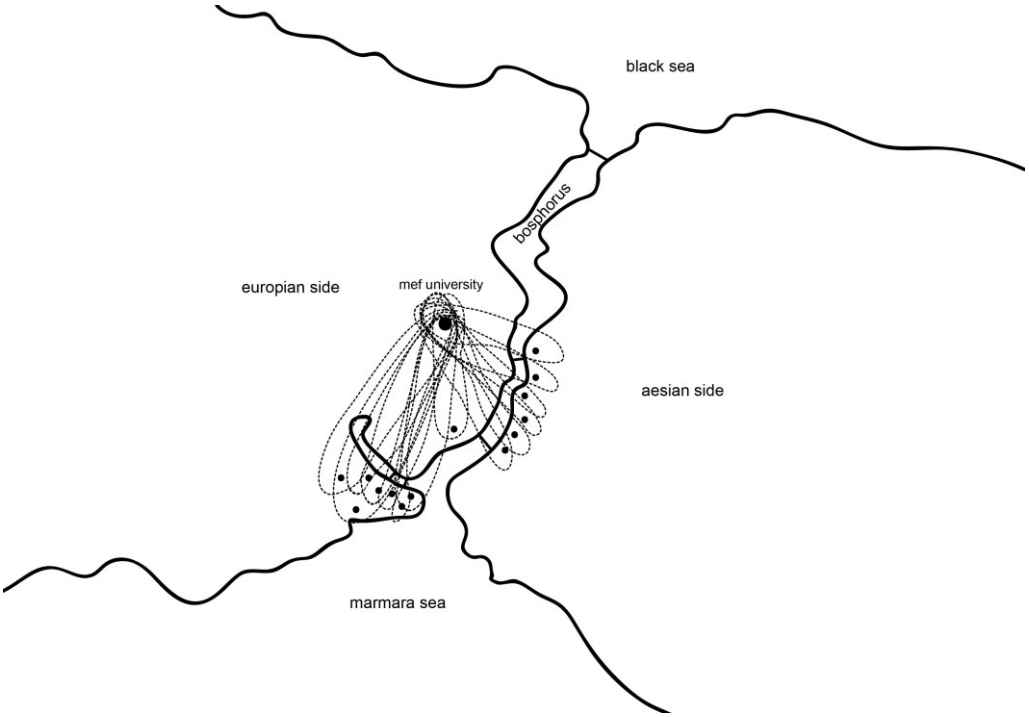

Figure 1. The city as a studio: The extended borders of the university, Ozan Avci, 2018.

The city has multiple layers such as physical, natural, cultural, social and itself is the place of confrontations and encounters. All of these layers are folded and can be unfold by bodily experience[3]. Using the city as a studio means not only going there but also being there. Field trips, site-seeings and excursions are based on going there as a kind of tourist. Producing there through active bodily experience converts this practice into being there rather than merely going there and considers the city as a studio (Fig. 2). This productive process triggers encounters, like a flash mob. In a flash mob, a group of people gathers suddenly in a public place and perform an unusual act for a certain time period, then disperse

[1] Peter Zumthor explains the quality of architecture through atmosphere in his book "Atmospheres" in 2006. According to him atmosphere is the reason when a building manages to move us. We perceive atmosphere through our emotional sensibility. Atmosphere triggers the sensation and plays a significant role during the bodily experience. When I assume the city as studio and the studio as an atmosphere, I also would like to emphasize its role in producing knowledge in architectural education through bodily experience

[2] Rollo May argues that every encounter is a creative act in his book "The Courage to Create"

[3] Here I would like to recall the thoughts of Maurice Merleau-Ponty and stress the importance of phenomenology in architecture

quickly. This performative[4] act attracts the attention of the public, redefines the public space and makes people to rethink about the limits of public space and the dynamics of everyday life practices (Fig. 3). Flash mobs demonstrate the power of bodily performance on the transformation of public space into another spatial mood, such as a studio, an atmosphere.

Figure 2. The coffee house as a studio, Ozan Avci, 2018.

Figure 3. Aksaray square as a studio, Ozan Avci, 2018.

In this paper, I would like to discuss my way of teaching as a retroactive research. I prefer to use the city – Istanbul – as a studio and visit different parts of it for my courses. Istanbul is a multi-layered metropolis. Because of its large scale, every Istanbuler has his/her own everyday life circle in it. Visiting various neighbourhoods of Istanbul extends the perception of the city in each students' mind. Each visit includes an active production process, such as drawing, mapping, model making, video shooting and discussing on site. We convert a square, a street, a market place, a mosque, a church or a coffee shop into an architectural studio (Fig. 4). We meet there, discuss there and produce there (Fig. 5).

[4] Erika Fischer-Lichte describes the ethimology of the Word "performative" and emphasizes the importance of "to perform" and "to act" so as to create an aesthetic experience in her book "Aesthetik des Performativen" in 2004

Figure 4. Cibali as a studio, Ozan Avci, 2018.

Figure 5. A street in Balat as a studio, Ozan Avci, 2018.

During this process, we encounter different locals and experience various topographical, social and cultural practices. Every encounter not only affects my students but also the people there. Our presence acts like a flash mob and takes the attraction of the people. They observe how we use the space, change the borders between public and private spaces and what we produce. This encounter creates a great interest and starts a dialogue between the locals and us (Fig. 6). Each dialogue is an expression of the self, for both sides, and unfolds the social and cultural layers spontaneously.

Figure 6. Koprulu Mehmet Pasa Mederesesi as a studio, Ozan Avci, 2018.

Besides unfolding social and cultural layers, bodily experience helps to explore the physical, topographical characteristics of the city. Being on the Bosphorus (Fig. 7), walking[5] on the streets of historical peninsula or moving around the hills of Istanbul creates totally different experiences. Each part of Istanbul has a diversified relation with the body and this variegation reveals various perceptions and sensations. Experiencing the city by your own body also creates a muscle memory[6] that you remember more than a theoretical

[5] In his books "In Praise of Walking" and "Sensing the World" David le Breton highlights the importance of walking as a bodily experience in order to trigger various sensations of a place

[6] Juhani Pallasmaa talks about the importance of drawing by hand in his book "The Eyes of the Skin: Architecture

knowledge. Even though we go there to draw something or make a model, etc., we have the chance to talk about what we see there and from there, the history and socio-economic, natural and cultural characteristics of the place (Fig. 8). This is an extra knowledge that we produce through discussions on site.

Figure 7. Walking along the Bosphorus, Ozan Avci, 2018.

Figure 8. Samatya square and Macka park as a studio, Ozan Avci, 2018.

During these discussions it is possible to have contributions from the locals. By this way, the talk and discussion become a free lecture for everybody. The city acts like an open platform to share knowledge and to gather around (Fig. 9). During that studio hours, there is no “other” and everybody that is sharing those moments become one. This performative act helps us to break the social and cultural borders and gives us a chance to know each other (Fig. 10).

Figure 9. Sultanahmet square as a studio, Ozan Avci, 2018.

and the Senses” in 2005 and draws attention to the muscle memory and says “The body knows and remembers (p.60)”

Figure 10. The Grand Bazaar as a studio, Ozan Avci, 2018.

In this way, an architectural course turns into a retroactive research based on bodily experience. Experience is a flow of time-space relations that are intertwined with perception and sensation. Each event of perception opens up to its own world and the world of perception is merged with the real world itself. When you use the city as a studio, the dynamic character of architectural knowledge unfolds itself and extends its content. In this critical pedagogy, architectural education becomes interactive between the city users and the students and transforms both of them.

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Biography

Ozan Avci. After graduated from I.T.U. Faculty of Architecture Department of Architecture with the 3rd degree in 2005, he had started his Master's in Architectural Design Programme at I.T.U. During his MSci, he had been to Brandenburg Technical University (BTU-Cottbus) as an Erasmus student between 2006-2007. In 2008, he was enrolled in Architectural Design Phd Programme at I.T.U. and completed his PhD in 2016. He was a visiting scholar as a Fulbrighter at University of Pennsylvania (U-Penn) School of Design for 2013-14 academic year in U.S.A. Between 2005 and 2017, he worked as a research assistant at ITU Faculty of Architecture Department of Architecture. Since 2017, he has been working as an Assistant Prof. at MEF University Faculty of Arts, Design and Architecture Department of Architecture. His research interests are body-space-time relations, bodily experience, representation theories and methods, the relation between representation and sensation, and the interaction between fashion design and architecture.

Shuffle the framework

TOC_Centre's case history about retroactive collaborations and forms of critical pedagogies

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Synopsis

Last autumn TOC-Centre opened its doors to forty students of Department of Architecture Federico II in Naples (DiARC) and launched an open call for an ambitious project: setting up the first edition of Shuffle Screening Festival in Copertino - Salento, South Italy - and spreading temporary "parasites" in different areas of this baroque city, in spaces with distinct urban and architectural vocations. The call translated its actions into two multidisciplinary workshops (winter and summer school) with the aims to allow students to experience new forms of knowledge and to implement the cultural usability of public space. Planned for the spring 2019 Shuffle Screening Festival will be a path of performative actions in public space able to connect design and moving images thanks to contributions of interdisciplinary and widespread team that involves artists, curators, designers, independent cultural associations, students and local community.

Key words: Critical pedagogies, serendipity, moving images, cultural usability, collaborative networks, public art.

1. Introduction

Today architecture education requires an approach closer and closer to the real experiences with an increasing contamination between different knowledges and languages (Fig. 1). A 'liquid'[1], hybrid approach is necessary to meet and address the needs of our contemporary society. Therefore the role of architect is changing: that introduction "shuffles" different practices and roles in his professional and higher-educational establishments. The way to teach (and to learn consequently) must take into consideration the position that the architect is nowadays who manages complex processes and provides the key to imagine multifunctional landscapes, often deeply connected.

Figure 1.

2. A retroactive collaboration between disciplines: from teaching to "community engagement", from place to project (or vice versa)

It seemed important to our group to make this premise to introduce Shuffle Screening's[2] case history (Fig. 2). Shuffle Screening is an ongoing festival format for moving images in public space co-created by TOC-Centre in collaboration with LightCone (Paris), independent groups and collectives, no-profit associations, artists, schools, professors, PhD and students of the Department of Architecture Federico II in Naples (DiARC).

TOC - acronym of Tower Of Copertino - is a cultural centre for the production of contemporary arts, recently opened. The Clock Tower is located in Copertino (Salento, South Italy), a monument which is inaccessible since several years. One of the main goals of TOC is to renovate the first floor of the tower, transforming it in a venue for exhibitions, installations, artistic residencies, screenings, happening, workshops and a work place open. It is an open space for research and production activities, focusing especially on the topic of the perception of time and space, through moving images and time based arts. It is a place where researchers, artists, curators, designers, performers, students and the local community will interact, for the creation of cultural and artistic processes and - not last - to improve equal opportunities for people with disabilities.

[1] BAUMAN, Zygmut, 2000. Liquid Modernity. 2002 [Modernità liquida], Roma-Bari: Laterza
[2] The workshop was conceived in parallel with the activities of the TOC cultural center project carried out within the framework of the Culturability competition financed by the Unipolis Foundation in collaboration with the Italian Ministry of Cultural Heritage

Figure 2.

In its philosophy TOC-centre's curatorial board is able to put together a wide range of interdisciplinary skills, practices, languages and project staff to create osmotic relationships and unusual combinations in the contexts of contemporary languages. TOC-centre also has an educational department with a specific program dedicated to training of researchers and designers, students and people with disability, to stimulate collaborative and co-creative practices inviting public to active participation. Among the goals, the use of contemporary languages to ethical and aesthetic reflection on them, contaminating processes and defining urgencies and possible future topics. The use of a non-formal education approach and innovative methodologies aim to the "community engagement" of different communities that live in this small town in South Italy. In TOC-centre's everything is cyclic, like Time.

3. The process > Design as time based art. The "parasites" for Shuffle Screening Festival

The collaboration between TOC-Centre and DiARC in Naples is based from a common aim: we tried to read design practice as time based art connected to visual and moving images languages. In this phase of our processe, we are linking the theme of parasite with contemporary art, landscape, biology and sound design issues thanks to contributions of interdisciplinary and widespread team. Last but not least, we are experience news forms for critical pedagogies and informal "school" to close the gap about contemporary culture.

In this way the co-creation group will create site specific ephemeral architectures, machines to "see", tools through which the audience can recognize spaces of the city and recognize himself in these spaces with a serendipity effect. We'll trasform the whole cultural program into a "long working and learning experience" for students, artists, and citizen involved to create Shuffle Screening Festival, planned for spring 2019. TOC-Centre's board with DiARC's group architects and students - supported by a large group of local partners[3] (Labuat collective, Foreste Urbane, Manifatture Knos, Giacche Verdi, Casello13,

[3] Labuat (Urban Laboratory Architecture Taranto) is a collective that promotes processes of citizen participation in the themes of the redevelopment and regeneration of the city and its public spaces; Foreste Urbane is an association which purpose is to promote and concretize the culture of ecological responsibility; Manifatture Knos is a place for participation and sharing ideas and projects in the fields of creativity and social innovation; Giacche Verdi, an environmentalist association and of civil protection, composed of volunteers; Casello13, a Copertino cultural association.

Municipality of Copertino and local entrepreneurs) - are already collaborating in this ambitious educational program that will include workshops, lectures, shows and public screenings to inform the audience and our community. The final displays will be the result of this co-creation process in which students, professors, curators, landscapers, people with disabilities, art lovers, visual artists and independents researchers are involved. In this osmotic environment we created, it is an advantage that we have many different models of thoughts so that learn from each other.

The research for a common strategy of intervention started at the end of November, last year, with a space related investigation. TOC-Centre organized a "winter school" in Copertino, comprising various phases:

1) research and build a general framework about 'parasite in nature and architecture', this the title of lecture by Gilles Clement[4], organizing studio visit sessions to supports students ideas (Fig. 3).;

2) we had site inspection phase in Copertino, with the consequently reading of the urban structure and of the relationship between spaces and local communities;

3) design phase on project proposals with public presentations.

Actually our group is working to organize the summer school edition with new guests and international tutors to smooth out the projects before start the production.

Also the choice of "parasite design" was the outcome of a collective idea. From the reflection on the urban space our research has led to the proposition of a defined parasite design, a practice that proceeds through the introduction of new architectural bodies into pre-existing buildings and urban structures. Transposing the concept from the biology, in continuity with the thoughts of the French landscape, philosopher and keen gardener Gilles Clément, the architectural parasite is an organism separated from the host both formally and spatially, but linked to this by a state of necessity.

The "parasite" architecture is intended as an additive strategy. It's a trigger mechanisms of adaptation and contamination. It's a strategy for the employment of urban areas, which combines pre-existing structures with extensions or grafts. In the city this transmutation is translated into a new idea of relationship, which recalls the logic of symbiosis in biology, close to accumulation, collage, assemblage's concepts.

The design experiments carried out during the winter school have adopted the parasite strategy to get into the urban design of the city of Copertino as a critical overlapping - in continuity or in contrast - of the existing spaces. This point of view become a yardstick of possibilities to weave interdisciplinary relationships with visual arts, sound design and urban spaces. This approach aims to transform - even if temporary - the perception of Copertino, grafting microarchitectures on the Clock Tower (TOC microvenue and studio artists), inside the main square to the railway station and ex industrial area of the city.

[4] The Workshop has been part of the program of the "Incontri del Terzo Luogo" promoted by Manifatture KNOS in Lecce, where Gilles Clement gave a lecture to the students of the University Federico II.

Parasite microarchitectures, almost urban installations with the character of a playground, have been designed to implement the use of public spaces in order to generate sociality and interaction among its possible future users, people with disabilities included.

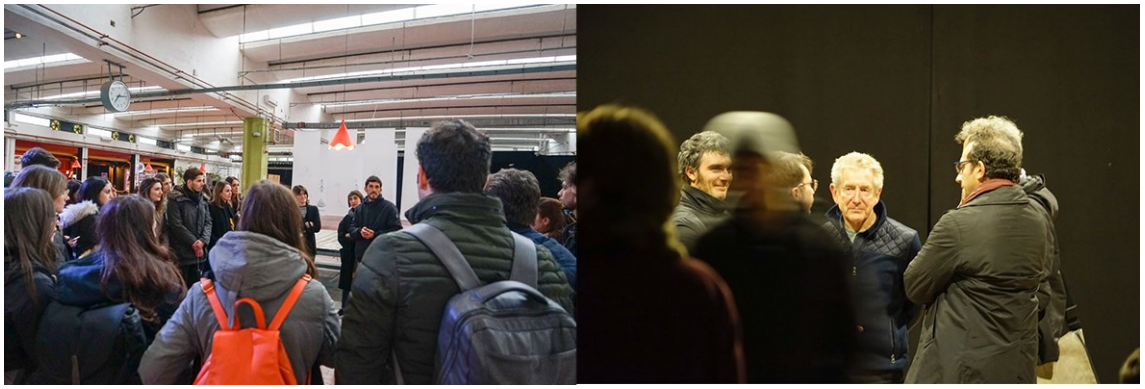

Figure 3.

4. Open conclusions

The aim of this research reflects on the possibility of architecture to extend the limits of other disciplines form different point of view. We would like to point out on three main aspect of our work presented as an interdisciplinary collective independent group work:

- We believe that the co-creation process, in which different disciplines and people are involved (students, professors, curators, landscapers, people with disabilities, art lovers, visual artists and independents researchers), has to be considered as an osmotic exchange in which we can learn from each other starting from different backgrounds and different way of thinking, with the aim to build up a learning community. (methodology)

- We believe that the students engagement is a crucial part of our process and critical pedagogies method. In this context the relation between the topic of “parasite architecture” and the idea of the “third landscape” aim to re-think the architecture as a discipline, in line with the idea of a “planetary urbanization”. Reflecting on the conditions of the contemporary cities and on the uncontrolled urbanization, we need to be more conscious about the necessary change in direction, both in practice than in teaching and research activities. (research)

- We believe that the experience of the realization of the micro-architectures for the event in the places identified for the Shuffle Screening Festival, could generate a positive interactions between the community and the practitioners (students, curators, artists and technicians) involved, reconsidering the use of the public spaces as a physical and non-physical connection among its possible future users, people with disabilities included. (practice)

The conference will present the first micro-architectures and discuss the results achieved of the whole process: both methodology and first steps, and future development ideas in view of the final phase of the work that aim to realize these projects for the Shuffle Screening Festival.

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Biography

Bruna Sigillo. Architect and PhD in Interior Architecture Philosophy. She is actually Adjunct Professor in Interior Design at the University Federico II in Naples. Her research topic is based on the analysis of shared spaces in different urban contexts, highlighting the gradual process of dissolution and virtualization in the imperative of connection, with special attention to the interiority and shared values of the human scale. Her main publications are on the topic of contemporary man who lives in a new dimension, the spaceless: isolated in his own bubble and at the same time logged on the world by preponderant web net. Winner of the public competition held by MiBACT "Youth for Culture", she joined at several academic researches, national and international design workshops and conferences. She currently conducts research on forms of critical academic pedagogies, learning by doing with students, thanks to the collaboration with cultural center like TOC and Manifatture Knos of Lecce.

Maria Luna Nobile. Architect, and Doctor of Philosophy in Urban Studies she is actually Adjunct Professor in Architectural and Urban Design at the University Federico II in Naples. Her research focuses on the design of the contemporary city, with special attention to the urban regeneration local policies, interdisciplinary and innovative practices especially focusing on the relation between urban development of the city and social issues in the era of climate change. As designer, she also takes part to public competitions on both small and large-scale. Her main publications are on the topic of the interdisciplinary approach of architecture dealing with the global changes.

Maria Pia Amore. Architect, graduated summa cum laude in 2014, she is a PhD candidate in Architectural and Urban Design at the Department of Architecture of University of Naples "Federico II". Her PhD research focuses on the relations between former psychiatric hospital and the contemporary city. Her wider research interests focuses on the design strategies of intervention, both at architectural and urban scale, on existing building and areas, considering the underused or abandoned built up spaces as a resource, and facing the modification/mutation as an instrument for reaching duration in a perspective of sustainable development. She is also interested on the communication of the architectural project. She joined at several academic researches, national and international design workshops and conferences. She is currently teaching assistant at Laboratory of Architectural and Urban design. As designer, she also takes part to public competitions on both small and large-scale.

Francesca Coppolino. Architect and PhD candidate in Architectural and Urban Design at the Department of Architecture DiARC of the University of Naples "Federico II". She graduated *summa cum laude* in 2015 at the University of Naples "Federico II". Her research interests focus on the relationship between architecture and ruins in contemporary city, on the interdisciplinary approach of architecture, especially regarding the relationship between architectural project and cinematographic techniques and also on the communication of the architectural project. As designer, she has participated to public competitions on both architectural and urban scale. Her main publications are on the topic of the contemporary architectural project into existing contexts. She is part of research groups at the University of Naples "Federico II". She has been tutor at Master courses and national and international workshops. She attended to many international conferences and exhibitions.

Reality Check

Multidisciplinary ways of conditioning space

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Synopsis

The aim of the paper is to illustrate a series of pedagogical strategies utilized concerning the integration of other disciplines in the design process towards redefining ways of conditioning space.
Via the agenda of a specific design studio laboratory the quest for integration is tested and the boundaries of architecture and other disciplines are being challenged.
The thematic of the studio poses “technology” as a lens to inspect the future of architecture, therefore it provides a fertile ground for reciprocally investigating the future of other disciplines.
A series of specific methodologies and processes are explored in order to encourage a multidisciplinary approach. These processes spread throughout the year as a continuous crossover of themes, exercises, workshops, references, case studies and discussions.
The Reality check exercise aims at redefining ways of innovatively conditioning space by integrating personalised insights from the disciplines of mechanical, environmental and structural engineering, construction and building services.

Key words: Multidisciplinarity, conditioning space, technology, pedagogy.

1. Introduction

The aim of the paper is to illustrate the pedagogical strategies utilized at an advanced level in the architectural education (4th/5th year of study “Unit”-design studio laboratory) concerning the integration of other disciplines in the design process towards redefining ways of conditioning space.

The coordinators of the Unit specialize in construction/technology subjects and have been genuinely concerned with how these disciplines fuse in the design studio. Within the framework of the Unit a series of specific methodologies and processes are being explored in order to encourage a multidisciplinary approach, by simultaneously broadening as well as focusing the design research.

The thematic of the Unit poses “technology” as a lens to inspect the future of architecture therefore it provides a fertile ground for reciprocally investigating the future of other disciplines. Specifically the limits of disciplines such as mechanical/environmental/structural engineering, construction and building services are challenged through architecture and vice-versa.

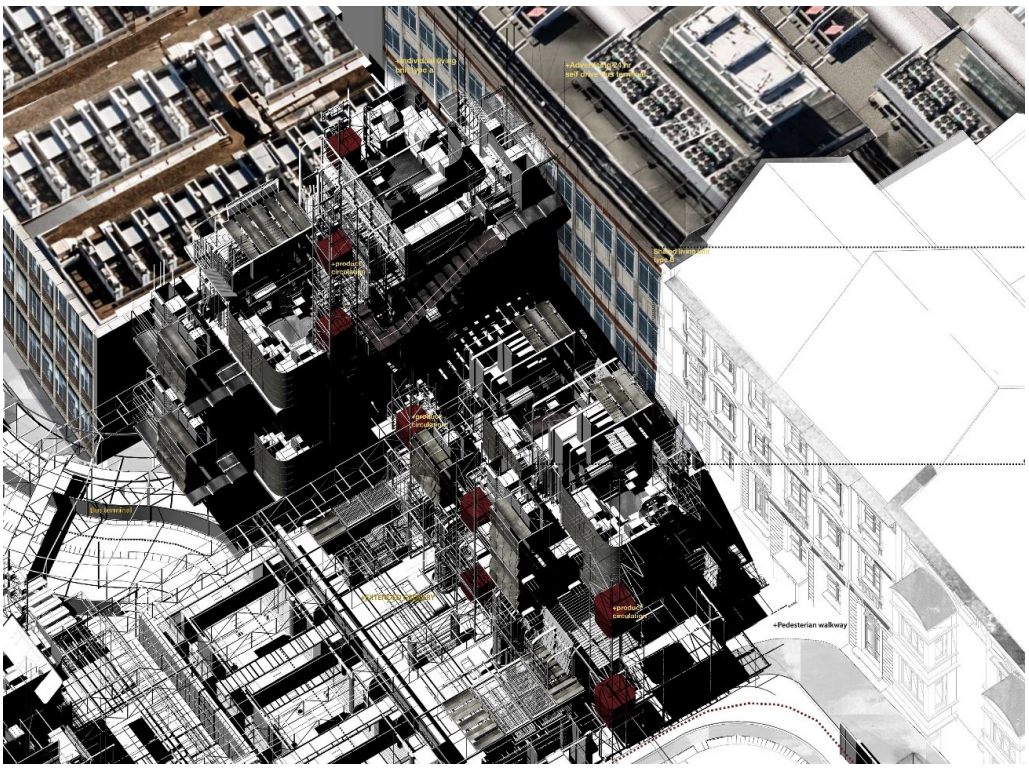

Figure 1.

2. Overarching drivers towards multidisciplinarity/integrative thinking

The Unit revolves around three key overarching drivers towards embracing multidisciplinarity: “Fusing”/“In-fusing”/“Con-fusing”. These intentions define the way in which all the ingredients of the studio are introduced, how the discussions evolve and how the students’ critical thinking matures.

Fusing: students produce work and then evaluate; a process that makes them appreciate potential reciprocal fusing of one discovery into others. The intensity of speed and amount of production is critical.

In-fusing: added ingredients and elements, such as intense workshops and exercises, are abruptly parachuted into the process, thus providing new sets of questions and parallel conditions. The element of surprise acts as a catalyst.

Con-fusing: confusion is enthusiastically encouraged and the only suggested remedy is more production! Through the introduction of thematics from other disciplines, confusion is both inevitable and expected. “Confusion” pedagogically means a positive stage of expansive options and issues for investigation. Instead of following a process of choosing and rejecting solutions, a longer process of distilling the multitude of findings is encouraged.

3. Pedagogical Strategies

In line with the above-mentioned drivers, a number of specific pedagogical strategies were tested. A varied series of targeted workshops included exercises on conceptual narratives, programme speculations, timelines, logistics, technical resolutions and tectonic investigations.

The strategies aim to enhance the students’ ability to grasp architecture as a coherent subject and positively embrace the merits of a multidisciplinary approach. Within an academic environment, it is vital to question how other disciplines are deciphered in order to challenge their boundaries but equally to confront the limits of architecture itself. This appreciation is even more critical when the aim is to divine the future of architecture; speculations about the future of architecture inherently imply discussions about the future of other disciplines and their integration.

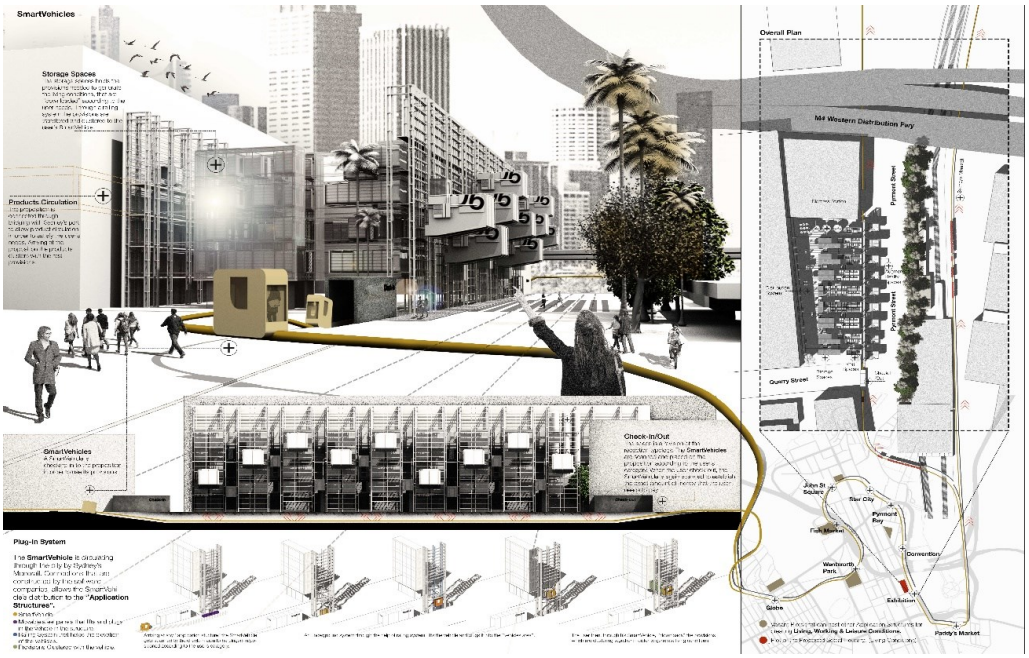

Figure 2.

Definitions of integrative approaches towards architectural creation are established through critically developed positions afforded from the plethora of historic and contemporary theories surrounding the subject. The Unit reviews

architectural writing to promote conceptual understanding of technology, function, programme and performance, in order to enhance appreciation of the interdependence of all parameters in architectural creation and the relationship with other disciplines.

The pedagogic methodology follows a spiralling design process, which is in opposition to earlier building design practices that followed linear thinking and development.

The Unit launches with the development of process tools for exploring possibilities of in depth study of past patterns in order to inform and trigger visions of the future. The timeline of a thousand years forward becomes the speculative proposition, the conceptual axis for incrementally projecting architecture into the future.

Following the formulation of narratives about the deep future, students are abruptly asked to perform a “reality check” exercise that narrows the focus on the immediate future, approximately 100 years from now.

4. “In-fusing”: “reality check” process

The idea of “in-fusing” towards intelligent multidisciplinary ways of conditioning space is implemented through a number of abruptly introduced exercises such as the “reality check” workshop, followed by the “tectonics” and “skin-deep” workshops.

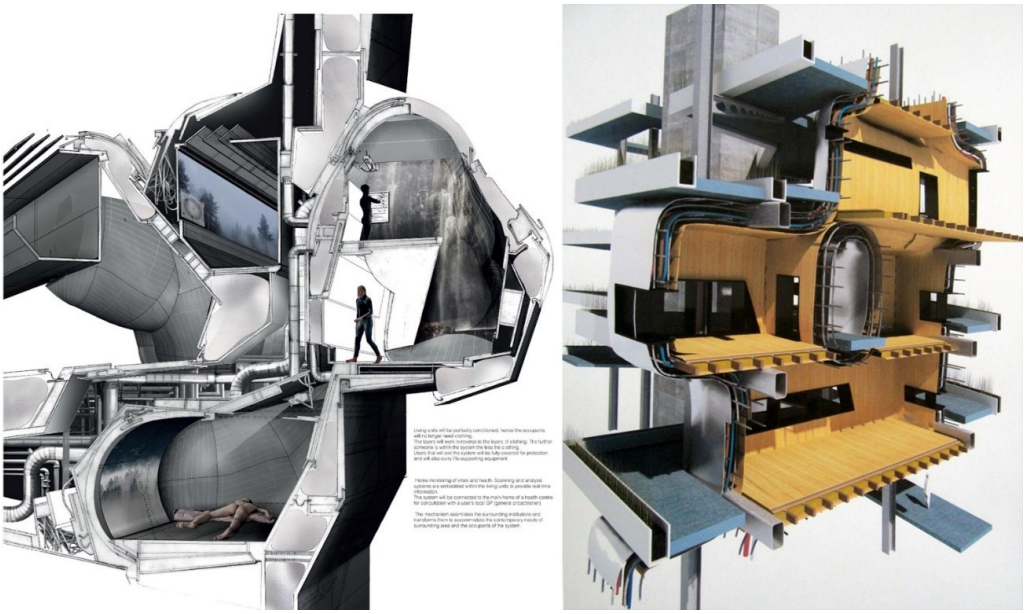

Figure 3.

4.1. Reality check

The “reality check” exercise aims at testing resolutions considering ways of conditioning space, materiality, systems, programmatic provisions, building services etc. The exercise is intentionally parachuted quite early in the design process to avoid misinterpreting it as a “detailing” exercise towards linear/traditional building resolutions. The objective is to equally appreciate this

as a conceptual driver of the propositions and thus dare to propose. Conditioning space is considered on both an operational/instrumental level as well as on an experiential/conceptual way.

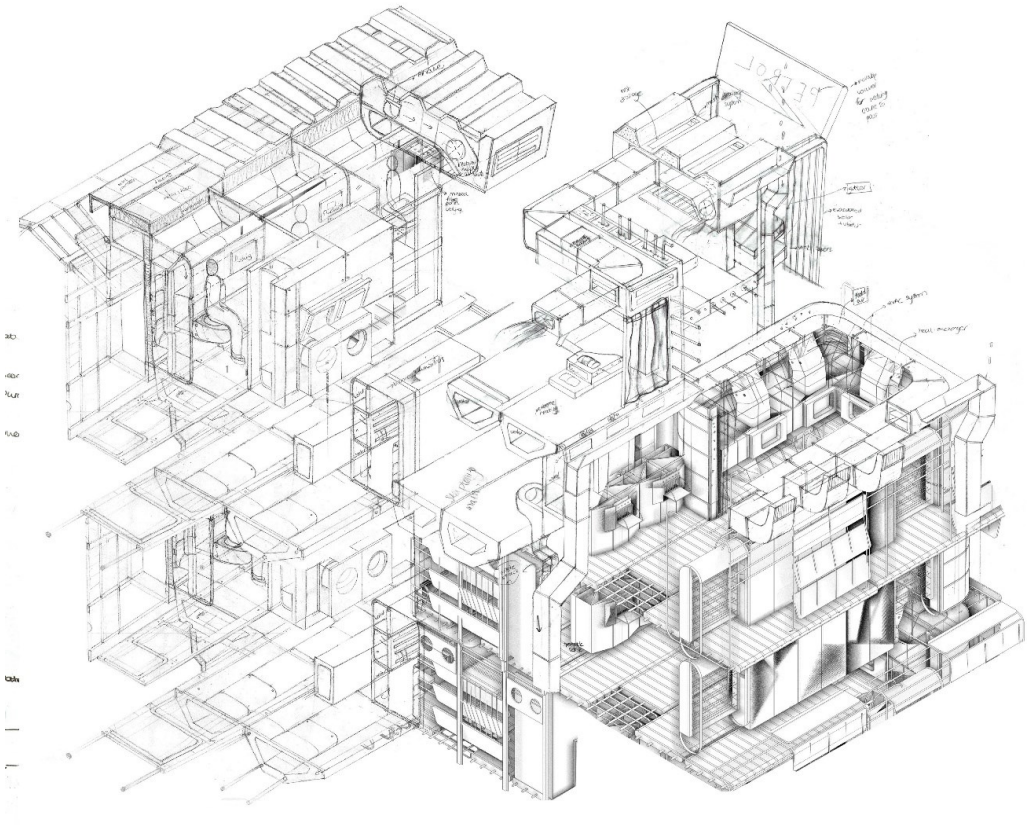

Figure 4.

The focus of the exercise is “integrative thinking”, where students gradually develop an inventory of alternative strategies (with inspiration/insights from other disciplines).

An Indicative list of parameters are considered:

-Life of buildings in time: process of manufacturing /use/operation/adaptation/reuse/abuse/renewal.

- Competence versus performace: systems sophistication/operative clues.
- User customisation/programmatic intelligence.
- Autonomy and/or interdependence.
- Building as a ‘development’: a system of objects and processes over time.

The pedagogic objective is not to require students to rationally implement architectural/technological “conventions”, but rather to understand “conventions” in order to appropriately reinvent them. All new findings should be incrementally accumulative and evident in the inter-crossed and synergetic strategies that enhance the performance of propositions and the intelligence in conditioning space.

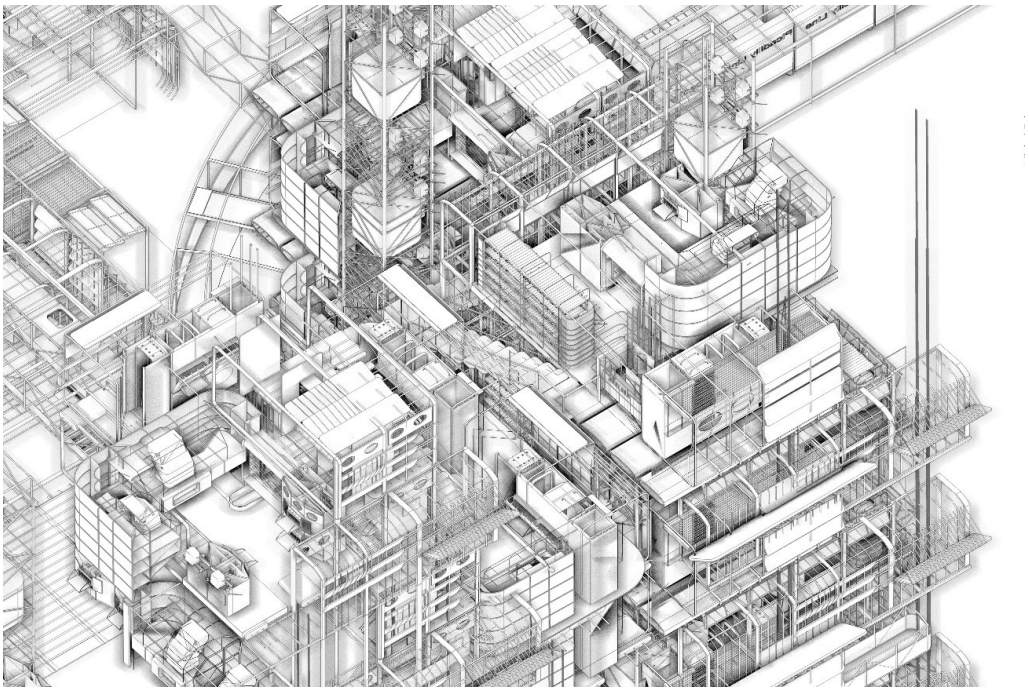

Figure 5.

The required output is sectional isometric / axonometric drawings at a scale appropriate to each proposition, accompanied by a multitude of other diagrams such as 3D plans, sections, details, assemblies, perspectival moments.

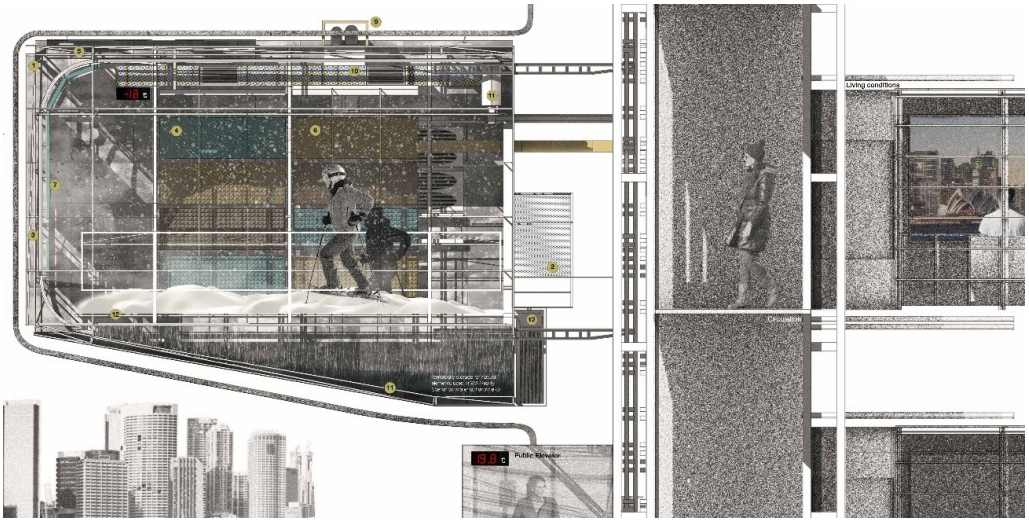

Figure 6.

4.2. Tectonics

Experimenting with the tectonic logic of propositions via the production of physical models. The definition of what a tectonic logic is was left open for the students to interpret but they have to consider the elemental make-up of the constituent parts, the art of joining things together, the implied materiality, the response to site, issue of programmatic hierarchy and varying spatial qualities.

The students investigate alternative tectonic logics and then merge them into a compositional model appropriate to a highly developed narrative.

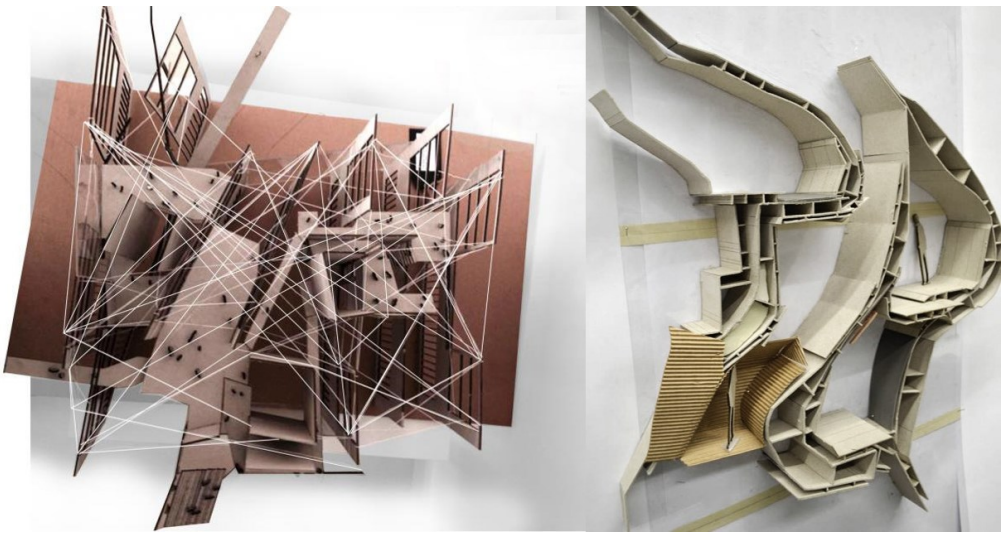

Figure 7.

4.3. Skin-deep

This workshop requires students to rethink the future of building skin, as interface and mediator between inside/outside conditions, both actually as well as conceptually. The aim is to reconsider the skin of buildings as a vital (and unavoidable) interface between what is building and what is not, what in and what is out, what is conditioned/transformed and what is left to its own devices, what postulates new ideas and what is left “being”, what deliberately creates new atmospheres and what is plainly… the atmosphere.

“Skin-Deep” deals with a zoom-in investigation of selected and holistic concepts already developed in previous steps that attempted to project into the deep future.

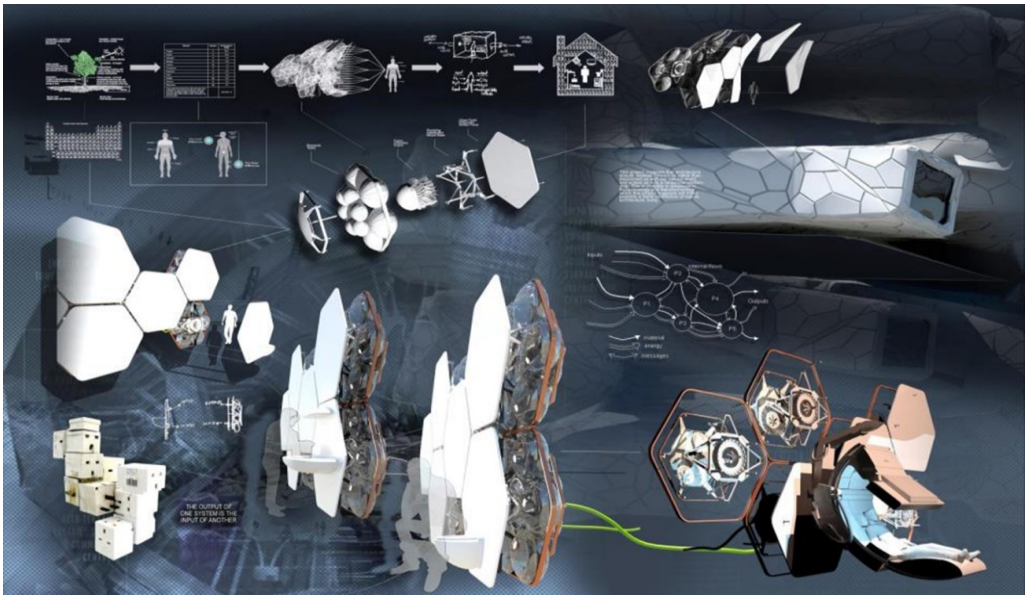

Figure 8.

5. Conclusion

The paper has afforded a perspective into utilising specific pedagogical strategies to encourage the integration of other disciplines in the design process towards redefining ways of conditioning space.

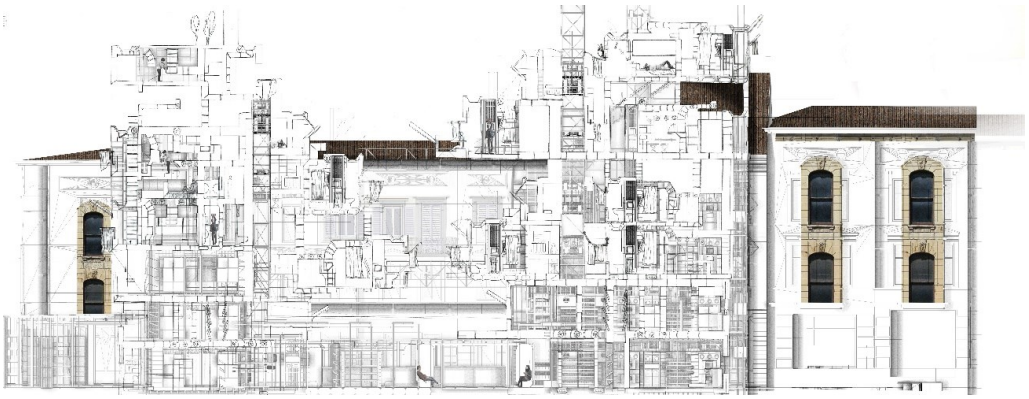

Figure 9.

The multidisciplinary approach in the design studio should not be prescribed, as the students could mistakenly perceive this as a recipe, leading to preconceived “solutions”. It should instead remain implicitly contained within the thematic framing of the design studio.

Evidently, architecture can challenge the limits of other disciplines, but it should equally be actively challenged by these disciplines through a continuously cyclical and reciprocal process.

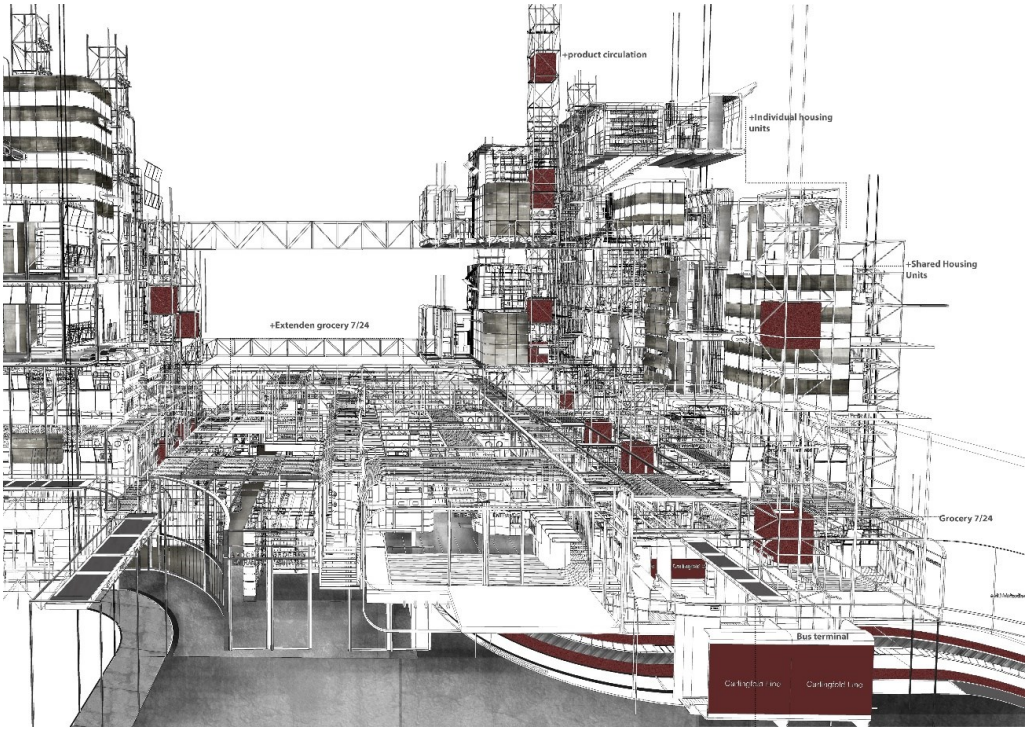

Figure 10.

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Biography

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She taught at the Manchester School of Architecture from 2003 to 2007, as a Lecturer in Architectural Technology. She has been the Head of B.A. Technology since September 2006.
In parallel to her academic involvement she has been involved in professional practice since 2000 and has qualified as an RIBA Chartered Architect in the UK, following graduation from the Advanced Diploma in Professional Practice in Architecture in 2004.
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He represented Cyprus in the Venice Architecture Biennale in 2008 with the project 'Easylove'.
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From authorial practices to network cooperation in the production of social space

An ANT approach to design

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Synopsis

This paper describes my research topic, which is focused on exploring new approaches in order to rethink *design* in a "non-authorial" form, challenging the profession's dominant perspectives and highlighting that architects have the possibility to fill an ethical, social and political gap in our profession.

My research seeks to investigate on the issue of the production of architectural and urban space through comparing the traditional practices that favour an hegemonic role for the architect with those linked to Bruno Latour's ANT - Actor Network Theory -, in which the architect operates within a more complex web of relationships between other subjects, other actors, other agents of different nature and culture.

Therefore it suggests to go beyond the idea of architecture as an autonomous practice, questioning and crossing habitual disciplinary boundaries.

Key words: Actor Network Theory, loss of authorship, social network, social condenser, matters of concern.

1. A philosophy of space

Network cooperation means here an approach based on the ANT, a theoretical model developed by some sociologists - including Bruno Latour - who affirm that every scientific idea, technical artefact or social fact is the product of a complex web of relationships, in which human and non-human social actors interact.

To better understand the meaning of this model and how could be linked to architectural design, it's necessary to retrace the principles expressed by Peter Sloterdijk - philosopher to whom Latour makes reference - who first grasped the depth and extension of the concept of design.

In his most important work - *Spheres* - Sloterdijk considers the *microsphere* as the original unit of the individual: the fetal pre-subject suspended in the amniotic medium that will be the origin of the human need to create spaces within which to establish an atmosphere, an anthropic determination.

The *macrospheres* are, instead, the social collectors. In the third volume he describes the idea of *foam society*, at the decline of the European macrosphere occurred with the great explorations, which destroyed the unitary image of the world.

> *With the concept of foam we describe an agglomeration of bubbles (…), aggregates of spherological neighbourhoods in which each "cell" builds a self-completing context (…), a "household" that is maintained by dyadic and pluripolar resonances and that is animated by its very own dynamic. (Sloterdijk, 2004)*

According to Sloterdijk, historically the personal sphere has always been formed at the expense of the foreign. So he calls on us to think about the human subject, and the supra-individual subjects that we call "society" and "civilization", together with objects, things, nature, animals, plants and the environment. These "things", this "foreign sphere" so far has always been objectified, looted, taken for granted, exploited.

By using the term "co-immunity", he thinks of an unprecedented coupling between the personal and the foreign sphere: between human and non-human, as well as between human beings, to preserve themselves and the biosphere as an entity capable of guaranteeing their survival.

2. A new idea of design

The concept of *design* is undergoing a profound change.

> *To think of artifacts in terms of design mean conceiving of them less and less as modernist objects, and (…) more and more as "things". (Latour, 2009).*

The Actor-Network-Theory is the specific approach of the STS *science and technology studies* that - having represented, until a few years ago, a small part of the social sciences that wanted to transform the *matters of fact* produced by the *instrumental reason* into complex gatherings of human and non-human and demonstrate that "artefacts do have a policy" and that a "parliament of things" can be established - have now reached a dimension such as to produce a reorientation between powers and a very critical position towards authorship.

The reconstruction of our collective life on earth must be carried out with an attitude that underlies *design* with these new words: modesty, care, precaution, mastery, preservation, re-design.

Design must be open to operate in an open and changing cosmos of multiple relationships.

3. The architect's tasks

The architect exercises his powers in a network made of a plurality of forces, of *actors*.

Awan and Schneider, Professors at Sheffield University, and Jeremy Till, Professor and Head of Central Saint Martins, are the authors of *Spatial Agency*, a research project that presents a new way of looking at how buildings and space can be produced.

Recalling Latour they argue that *a*s *matters of fact*, buildings can be subjected to rules and methods, and they can be treated as objects. Priority is given to those aspects associated with their static properties: the visual, the technical, which is also the a-temporal. As *matters of concern*, they enter into socially embedded networks - in which the *consequences* of architecture are of much more significance than its *objects* - and more 'relational' and 'contingent' aspects are highlighted: the processes of their production, their occupation over time, their intrinsic temporality, their relation to society and nature.

A loss of control should not be seen as a threat to professional expertise, but as an inevitable condition that must be dealt with in a positive light: buildings and spaces are to be treated as part of a dynamic context of social and environmental networks.

The architect as *demiurge-author* must give way to the architect as *social condenser,* who effect change through allowing others to become actors of their spatial environments, opening up new freedoms and potentials.

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Biography

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She graduated from University of Naples Federico II with a degree in Architecture in 2012 and in 2013 obtained a master degree in Events and Museum Curator from Istituto Europeo di Design – IED in Rome.

Since then she has been both carrying out research activities - at Federico II in Naples, Politecnico of Milan and ELISAVA Barcelona - and working to several projects with great interest in social and environmental sustainability, participatory design and bottom-up processes.

She recently started working on her thesis that - inspired by Bruno Latour's ANT - is concerned with the revaluation of the social and political dimensions of architecture, not considering it as an autonomous practice, but rather as one of the many that contribute to the collective production of space.

Urban Catalogues

Review and critical analysis of a tool for heritage protection

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Synopsis

This paper aims to analyse the use of urban catalogues as a tool for the protection of the built heritage, the results that have been achieved so far and the possibilities for its integration in the current paradigm of urban regeneration.
We intend to evaluate to what extent this kind of instruments have been effective to ensure the conservation of singular buildings, because at first sight the results do not seem satisfactory, at least in the way that they have been used in Spain.
In this regard, it is necessary to explain the difficulties that they have to face and explore possible alternatives in a renovated context of multidisciplinary collaboration and integration of urban regeneration policies.

Key words: Urban catalogue, heritage, multidisciplinary approaches, integrated policies.

1. Urban catalogues as normative tools

Born as a measure to protect the most valuable buildings and prevent their demolition, the use of catalogues has extended since the second half of the 20th century, although it varies in every country or city. They emerged as a reaction against the intense urban renewal of some European historical centres that resulted from the combination of hygienist measures and real estate interests, within an urban planning system aimed at the urban expansion rather than reform. In this context, catalogues were included and consolidated within general and special planning tools as a specific protection measure for historical spaces, following the awareness of the loss of heritage that this previous urban renewal processes may involve.

In brief, a catalogue consists of a list of outstanding buildings that receive a certain degree of protection, which involves a regulation on which types of interventions are allowed in them. The strictest protection excludes any intervention beyond conservation and restoration works, while the lightest one just protects some elements, such as facades or fragments of them. In this sense, catalogues become a kind of ordinance for existing buildings.

In general terms, catalogues have been a useful tool to fight against quantitative transformations and to stop, at least partially, the substitution of buildings that for instance ruined many Spanish historical centres during the sixties and seventies. They represented a defensive and restrictive strategy that somehow froze urban landscape, and this has revealed as insufficient to effectively avoid the deterioration of this heritage. In addition, some authors have linked catalogues with urban speculation and explained the role that they play within some socioeconomic processes in historical centres.

2. Unsatisfactory results

Some research on the state of conservation of buildings in various Spanish historical centres has allowed us to evaluate the effectiveness of the catalogues and their integration with other urban policies.[1] The poor inclusion of other active protection and reuse measures and the inability to influence some of the main problems in these areas explain their poor results. This affirmation is not something new: in the text that accompanied the pre-catalogue of Madrid (1977) was stated:

> *"The approved document is a first step in the municipal policy for the revitalization of the ancient city. Absolutely ineffective if it is not inserted within a coherent planning with the contribution of the necessary means for its management and execution".*[2]

Among the specific objectives that are attributed to catalogues, the most usual are the conservation of buildings, the diffusion of the values of the heritage that they protect or even the revitalization of historical centres.

[1] Research projects such as "*Políticas urbanísticas aplicadas a los Conjuntos Históricos, logros y fracasos*" (2011-2013, CSO2010-15228) or "*Las Áreas de Rehabilitación Integrada y sus efectos en la recuperación de los espacios urbanos históricos*" (2014-2017, CSO2013-40688-P).

[2] Announcement of the agreement that was taken by the City Council and was published in *Boletín Oficial de la Provincia*, November 8th, 1977

However, these documents rarely articulate neither effective conservation measures nor revitalization ones, and they are hardly known by citizens.

For instance, it is surprising that catalogued buildings usually suffer worse evolution than not protected ones in their state of conservation: through our research we have realized that the number of catalogued buildings that are in a ruinous condition is clearly higher that the average of all buildings in the historical centre. In fact, this condition usually affects to 15-25% of catalogued buildings, which is excessive taking into account that they are valuable elements to be preserved.

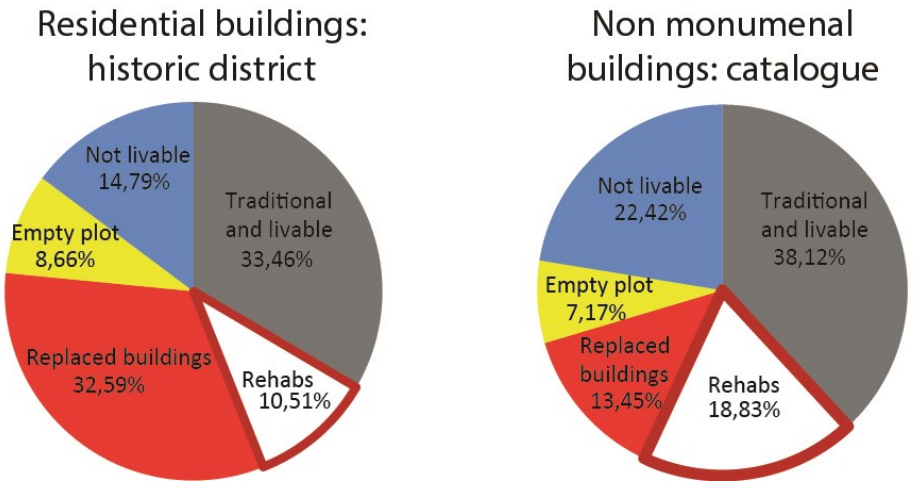

Figure 1. Poor statistics on catalogue results: Cuellar's case.

The general and special urban planning tools have contributed to catalogues with most complementary strategies. These plans usually try to promote the management and fulfilment of the objectives of catalogues, such as the recovery of catalogued buildings in danger.

The allocation of public uses is the most widespread measure for the rehabilitation of the most significant buildings, and specific planning and management tools to promote the intervention in groups of buildings have also been proposed. Unfortunately, private developers are not interested in these kinds of projects in the current context of Spanish real estate market, which recovers from its worst crisis in decades, and public resources are not enough to satisfy all needs.

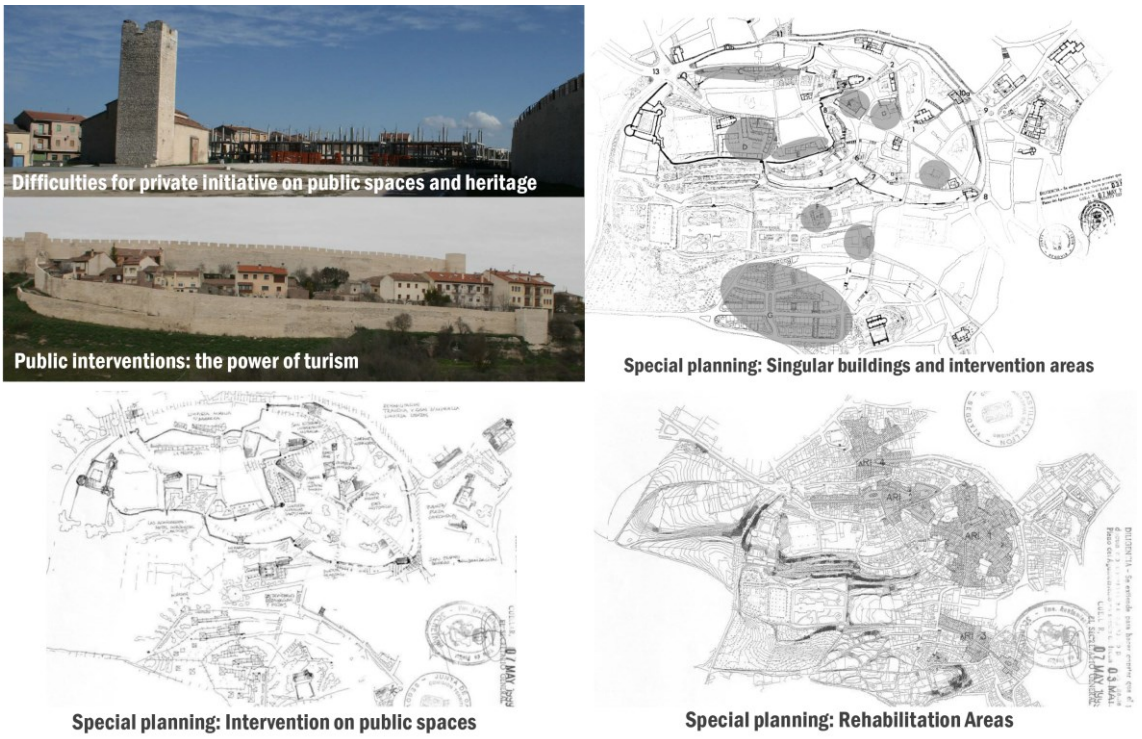

Figure 2. Some interventions proposed in the village of Cuéllar (Segovia).

3. Conclusions. Towards a proposal for a new model

Integrated urban regeneration is a concept that has been more and more used in recent years. It points out that the global needs of the existing city (social, functional, material) should be understood as a whole, and catalogues could enrich this approach, if we think of a different role for them.

If we understand that urban heritage is not only a value to be protected but also a social resource at our disposal, catalogued buildings could contribute to satisfy some collective needs in historical centres and also in other parts of cities: lack of affordable housing, poor quality of public space, lack of collective services for education, health or leisure, among many others. However, this would require a turn from the current protective, restrictive character of these tools towards a more active one.

In this regard, it is necessary to overcome their rigidities and reformulate catalogues with a programmatic rationale. On the one hand, the current fragmentary vision that emanates from these tools would be overcome to insert the buildings that they incorporate as part of an urban landscape and a social fabric. On the other hand, it would put the building together with the use that ultimately gives it sense.

That requires an interdisciplinary approach to combine the vision of urban planners and architects with that of other professionals (sociologists, economists, managers, etc.) and also with that of citizens and neighbours. In the same way, through the catalogues, urban planners and architects can for instance guide the initiatives of cultural or neighbourhood associations. An effective policy for heritage conservation in historical centres cannot be only

built upon planning tools, but requires creativity and collaboration that are prone to mobilise both public and private resources. Numerous recent cases of intervention proposals show the opportunity that a better articulation between catalogues and social agents would represent for the physical and social rehabilitation of our cities.

Figure 3. The former slaughterhouse of Valladolid (a modernist building from the thirties, protected P3) has been partially recovered as a cultural centre for “non institutional” initiatives combined with facilities for neighbours, while some parts of the complex remain abandoned.

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Biography

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Restoration of Macrolotto 0 in Prato, Italy

A sustainable project for architecture and communities by Alessandro Gaiani

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Synopsis

Prato is a typical city that has to deal with the social integration and relaunch of degraded and abandoned neighborhood due to the coexistence problems of different ethnic groups (it is the largest Chinese communities in Europe) and the economic crisis which is affecting several industries like fashion.
A sustainable integration of degraded environments becomes a canvas to integrate meditation and contribution of pre-existing heritage, identify and evolving new ways of fruition of present participating communities.
The study focuses on:
• Defining a systemic mutation of reconditioning and recapturing the value of “urban waste” in a cost-effective approach.
• Define a strategic method for restoration of inherent value to abandoned urban heritage in the communities.
Define specific adaptive design tools, with minimal interventions “by a strategic architectural influence” to transform the value of the communities into a technical and societal intervention.

Key words: Sustainable society and architecture, humanity, strategies, riconditioning, meltin skills.

1. Background

Like many medium-sized Italian cities, Prato underwent a substantial change of aim and perspective during the end of the last century, going from a city-factory, characterized by textile and fashion production, to a multiethnic center forced to face the Chinese mono-ethnicity immigration. Disused and incomplete sections of the city have started to appear due to the recent economic crisis followed by widespread social unsustainability: The Macro Area 0 is one of these realities.

Figure 1. Fashion factory of the Chinese mono-ethnicity inside an industrial building with total lack of hygienic regulations.

The largest Chinese community in Europe is located in Prato and despite its recent formation, especially since the '80s onwards, presents characteristics similar to those most dated in Europe. Activities related to the processing of leather and ready-to-wear have developed in the district of Florence and Prato due to the low rent prices of the artisanal warehouses, now in crisis for the relocation abroad. The characteristic of the Chinese community is to offer work to fellow countrymen, producing exclusively social relationships within their group and not relating absolutely to any other, even at the cost of working and sleeping within the same building. This model in crisis within the Macrolotto 0 has determined objects discarded by failed artisanal productions (functional deficits). It has also caused relational gaps due to the loss of importance of traditional forms of social aggregation forcing people to retire from using the public space.

The sustainable mutation of man-made places which are facing today crisis

becomes a catalyst for a work of mediation and contamination between pre-existence, heritage, identities and new ways of fruition, organization and participation of the communities.

2. Aims & Objectives

Virtual and real communities are born every day. It is within these communities that people aggregate and find themselves unified by a collective, although temporary, sense of group identity.

The real challenge for a social-economic sustainable mutation passes through the search and continuous tension from the global to the individual, from being visible for the world to recognizing oneself in one's own local space of life: "*Identity is built through relationships of otherness*".

The study originates from these considerations, which find a variable that can guarantee future scenarios of sustainable socio-economic development thanks to the community dynamics.

It is necessary to recover and not replace the real connections between people in the places where they live, bringing back to the local dimension a lost identity. The community is the place where different stories, ethnic groups and generations meet.

Architecture has always been attentive to social changes. In fact, there is no design or form that is not an interpretation of a social idea. Therefore, architecture can collaborate in redesigning the places of urban living through reconditioning methods of the status quo, where the communities recognize an identity value.

This experiment can only be possible in Prato, the city of carded wool. This fabric born from the "scrap" of clothes represents the engine of the economic regeneration process of the area.

Figure 2. Typical neglected industrial building in Marcolotto 0, Prato.

The opportunity to work on Macrolotto 0 as a study for innovative experiments allows to trigger a new, enlarged and redesigned strategy of integration between the different realities. A benchmark for a "flexible" and communicative city, where to explore the possible hybrid, political, social and urban developments in the polychrome and varied reality of the 21st century.

3. Methods

The application of the method refers to the circular system concept. A model that puts back into circulation resources already used but that have not reached their total obsolescence. In this way it is possible to obtain not only primary material (recycling) but a new device able to transform waste into value. A device resulting from the integration between what exists and the new insertions. It is implemented with the logic of minimum intervention and transforming the circular system into the whole design process, defining a sustainable circular mutation. Using this method, what already exists will be overwritten, inserting different philosophies of life, shapes, spaces and materials. New tools capable of facing themes of complexity and definition of differences.

In this attempt to strategically respond to the new demands of the contemporary, is fundamental the relationship between history, as the story of ideas, and the cultural changes in process. Between pre-existence and momentum to the future, between the role of a pure technical architect of the project and the strategist architect, skilled master of urban overwriting.

The strategic actions focus on:

- create and endorse a sense of identity within the community through architecture;
- move the focus from the single building, object of design, to a catalyst element for a social change. The minimal intervention becomes an opportunity for the introduction of new tools;
- overcome the fleeting reality of new digital technologies with a system of direct relations between the internal and external spaces of the city, where time becomes a necessary condition to pass from existing to living in our world according to its own inner autonomy and respect of the values of the Community.

4. Results

The strategy is based on precise urban insertions able to revitalize first the object and then the surrounding through an osmotic principle, able to change the status quo with a different scale of values. This is no longer founded exclusively on their architectural quality as in the past, but mainly on the society-community relationship.

On one hand, the project guidelines originate from an interpretation of the typological classification system as an evolutional and dynamic principle applied to spaces and situations not yet codified. On the other from adaptive mechanisms relying on a circular structure that changes and configures according to the conditions of the context. The strategy is structured using

different adaptive tools that include interventions at different scales on diverse spaces:

- **Graft**, with the Landmark, Urban Markers and Box in the Box strategy
- **Parasite** with the adaptive prostheses strategy
- **Edge**, in the sense of Limit, Border, Inhabited margin
- **Level 0** as a system of connections, platform and meeting engine
- **In-between** with infill and Pocket Park.

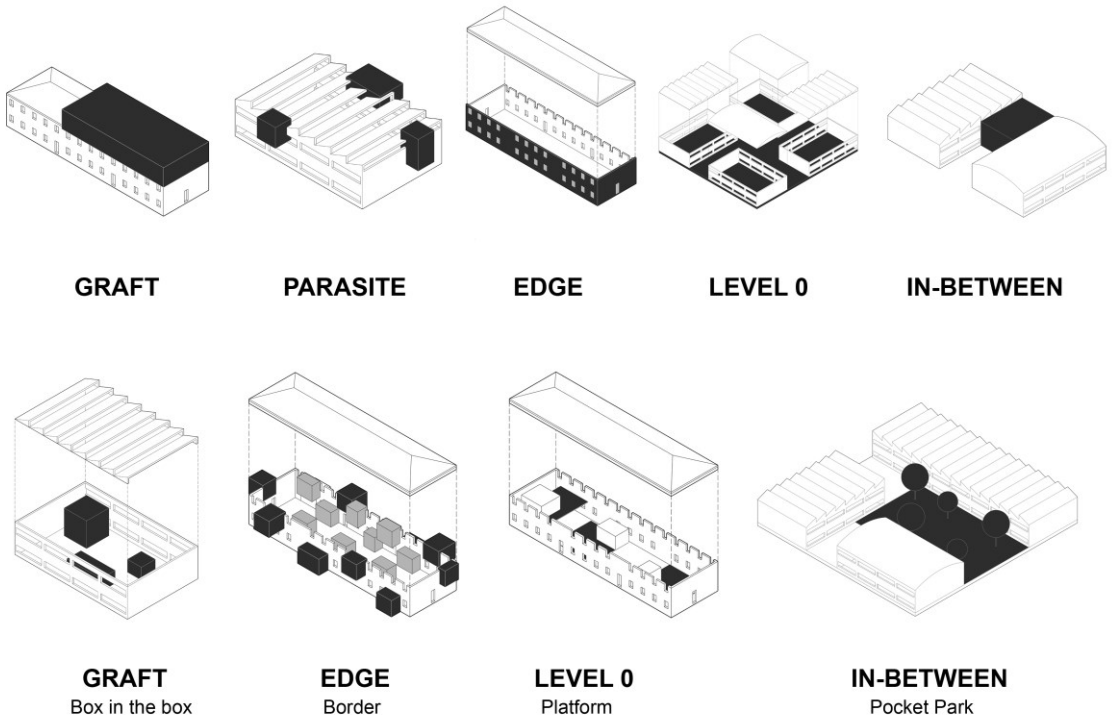

Figure 3. Adaptive tools for an urban redesign.

The neglected buildings, now in temporary mutation, are a synthesis of many actual requests able to be an evolutionary principle for future adaptations. Inventions that to adapt to a different role, able to solve an incomplete situation and to enhance it. They are the result of an experimental project between the Public Administration of Prato, the private owners of real estate, the University that has implemented the strategy through a Convention with the Municipality, and the local community, composed by some groups of artists, cultural associations and fashion and technology start-ups.

The Modern had modeled objects that defined themselves through their masses, the organization of solids and voids, the constructive system and the functional organization. The Postmodern has proposed single objects based on completely personal, self-referential languages. Nowadays, can the method of re-conditioning existing buildings and the related adaptive tools answer the questions of integration of the social and architectural scale?

Figure 4. Neglected industrial space temporarily used by the Chi-na Cultural Association as a venue for exhibitions, events and co-working.

Figure 5. Corte Genova, craft buildings enhanced by artists using "waste" elements found in different spaces, Prato.

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Biography

Alessandro Gaiani. Architect, since 1999 is a university researcher in Architectural and Urban Composition at the Department of Architecture of Ferrara. His own design is based on the strategic hybrid and sustainable approach, winning national and international design competitions. He is a firm supporter of the value of balance and influence between socio-economic disciplines and architecture.

Architecture as a control device

Disciplinary strategies on architecture as a post-Enlightenment tendency

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Synopsis

The turn between the 18th and the 19th century involved a lot of changes in Europe in the social, cultural and intellectual spheres of society. During this period a whole new group of strategies were applied in order to fight against ignorance and superstition through knowledge and science.
In this moment, and because positivism was also applied to buildings and cities, architecture is stablished as the main device that ensures full social control, substituting the open spaces where public punishments were displayed during previous centuries. These rituals were not considered necessary anymore, and institutions based in the use of discipline intensified their activity.
These institutions pretended to control people by building knowledge on them. Typologies like prisons, schools or hospitals appeared then, and, even though they have different purposes, they all shared the same strategies.
So, can architecture and the city be understood as devices used to ensure social control?

Key words: Architecture, knowledge, surveillance, factories, prisons.

1. The Enlightenment as a starting point

During the 17th and the 18th centuries, the concept of the body as a target for power relationships was generalized. Previously, the main ways to keep social control were both public punishments and tortures, but the new cultural environment changed that procedures. Since then, bodies won't be punished and tortured but manipulated, taught and prepared so they would act and perform as desired by the ruling classes. These ideas were previously stated by authors like Descartes or La Mettrie, but it is in this precise moment when their application is widespread. As Michel Foucault stated in his work Discipline and Punish: The Birth of the Prison, the disciplines emerge as general and systematic expressions of dominance over population during the Enlightenment.

2. The techniques

As any other strategy, disciplines are based on a group of techniques that in this case pretend to control individuals. One of them is the possibility of enclosing people, that appeared before the Enlightenment in institutions like monasteries or in elements such as the exterior walls of medieval cities, but since the 18th century is applied in many other typologies such as factories or schools.

Once we approach to these enclosing systems, we can observe that they don't work following a rigid principle, neither constant, but they design the space in a delicate and flexible way. It is pretended to create analytical spaces where bodies are visible, so their actions can be surveilled in order to correct them. To achieve that goals, space is divided in different areas depending on the different activities that are going to take place. That is a way to start individualizing people, so their abilities and performances can be compared and rated, and eventually corrected, so they can optimize a production that can be material (factories) or intellectual (schools).

All these strategies grouped under concepts such as the cell, define complex architectural spaces whose physical appearance is the mere representation of these ideas. Their design is not determined by beauty but by relational complex systems that guarantee the obedience of individuals and optimal production and that are external to simple building activities. In these architectures, gesture control is also important in the establishment of routines and the organization of heterogeneous groups of people, being key in the creation of "microphysics of power" based on cellular coercion.

3. Time politics

The use of time is another way to guarantee control over individuals. It first appeared in the coenobitic monasticism, where life was organized through time, with a strict control where even the smaller detail is completely determined. This model looks for a perfect correspondence between time and space, where every room has a precise activity and a precise moment to be done. Time and space work together looking for rituals that make easier to control what is happening, as it was done in the Abbey of Saint Gall. (Fig. 1).

In addition, its design also responds to other strategies that are repeated in different buildings of control, like the central position of the cloister as an observation space, with the cells around. These principles can be found as well in later institutions because they constitute the ideological basis for modern means of production that appeared through the 18th century. This time control is extended later to other architecture devices using the same procedures: spaces that guarantee rhythms, repetition and the imposition of tasks. We can assure that this time-space relation also affects bodies, enabling the possibility of controlling not just what is happening in each space, but the gestures and movements that are performed in them.

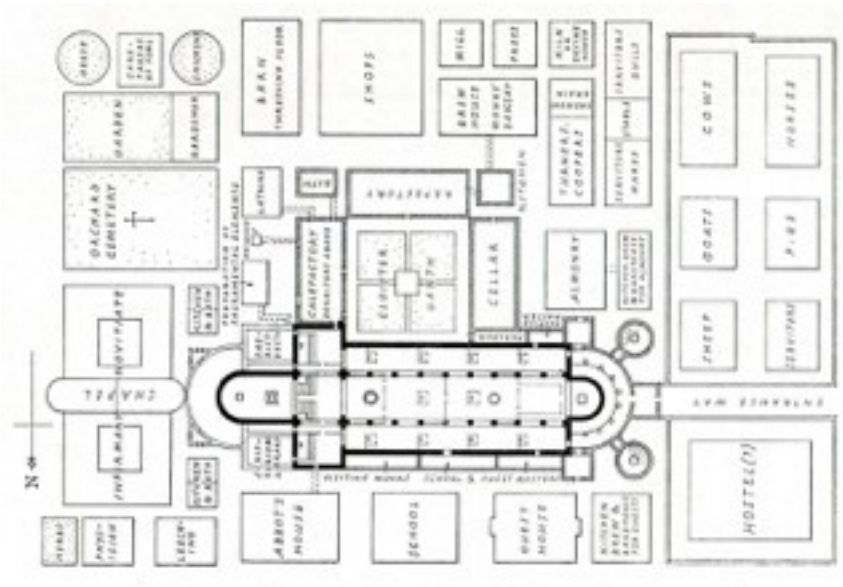

Figure 1. St. Gall Floor Plan as an example of Spatial Timelines.

4. Cities and surveillance

In the same way that buildings were used as devices intended to build knowledge on people by observing them, the design of cities is also intended to work in the same direction. Some of the strategies stated by Foucault can be also found in urban design where they help to ensure normalization and hierarchized surveillance. Disciplinary institutions are in fact coercive devices that control by looking at people. Even if hospitals, schools or factories are good examples, the military camp is the best. The organization in perfect squares allows the complete visibility and dominance over the organization.

With an origin on these military systems, some of their principles were transferred to urban design, with examples such as the Haussmann plan for Paris, where new wide and open public spaces made easier to control the city and turn it more transparent, erasing the chaotic medieval spaces where riot were originated. As Jean Starobinski stated "with a mixture of monumentality and repressive purposes, destructions and reconstructions of *midcentury urban areas where one of the reasons for spleen*"[1]. Other models, such as the concept of urbanization described by Ildefonso Cerdá, made it possible to understand

[1] STAROBINSKI, Jean, 1989. La Mélancolie au Miroir, Trois lectures de Baudelaire. Paris: Julliard.

the city as something that could be scientifically controlled and designed, so people could be distributed and observed as it was done in disciplinary institutions.

5. Architecture as a control device

The strategies studied in this article were both initiated and stablished as a way of ensuring social control during the change between the 17th and the 18th centuries, turning architecture into a required and decisive operator in this surveillance process.

Buildings as the Royal Saltworks at Arc-et-Senans, designed by Claude-Nicolas Ledoux are manifestations of the extension of the concept of surveillance towards architecture. Conceived as a complex that must reflect work hierarchy it is one of the different examples of circular surveillance architecture, as the Panopticon (Fig.2) designed by Jeremy Bentham or la Pettite Roquette by Harou Romain (Fig.3).

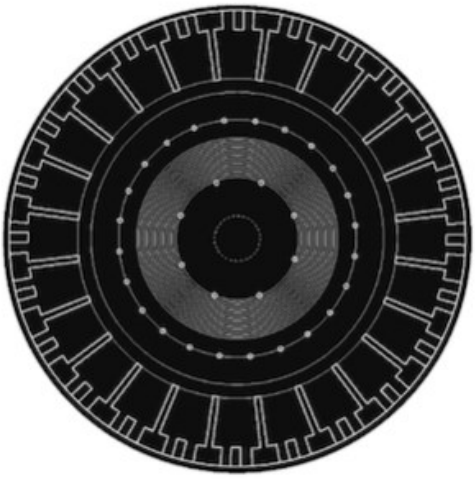

Figure 2. CARRASCO HIDALGO, Alejandro. Jeremy Bentham Panopticon Plan.

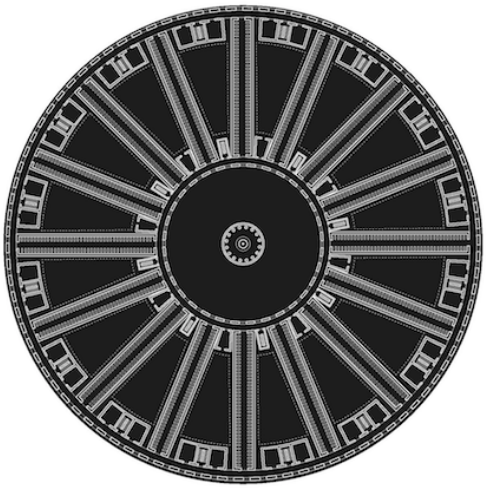

Figure 3. CARRASCO HIDALGO, Alejandro. La Pettite Roquette Plan.

However, this way of controlling through architecture is still present, even if it isn't looking just for control but for any profit. The main strategies that were described previously (cells, the possibility of enclosing, time-space correspondence and the principles of visibility) can be found in almost every building that exists today. If we look, for example, at the plan of the Panopticon, and we compare it to Alvar Aalto's Paimio Sanatorium (fig.4) or Terragni Sant' Elia School (fig.5) we can see in all of them cells, common spaces that are part of a time-space routine and mechanisms of spatial individualization and observance, even if they have different goals. Architecture has stablished itself as a device committed to controlling in order to produce, repeating and appropriating those strategies that were initially extended during the Enlightenment.

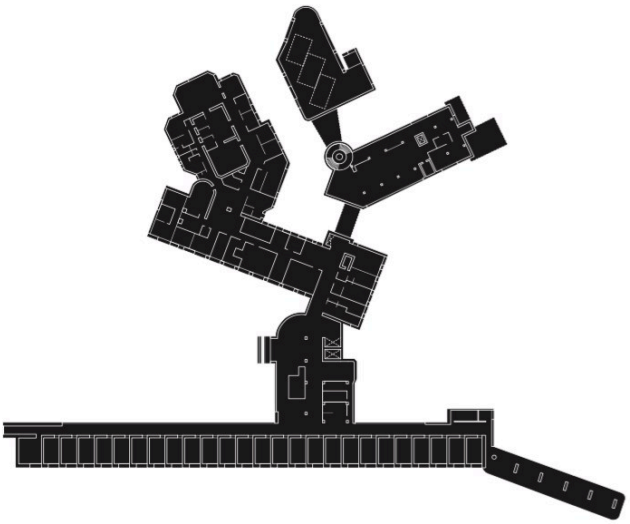

Figure 4. CARRASCO HIDALGO, Alejandro. Paimio Sanatorium Plan.

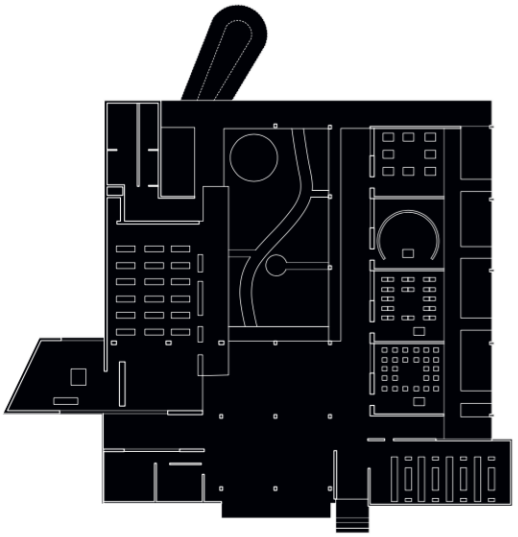

Figure 5. CARRASCO HIDALGO, Alejandro. Sant'Elia School Plan.

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Biography

Alejandro Carrasco Hidalgo. (1993) is a MArch student at Universidad de Alcalá, where he obtained his bachelor's degree (2017) with his thesis Punish and Surveillance: a (re)vision on observance, control and discipline devices. With international experience in offices such as BIG (Bjarke Ingels Group) or Barbas Lopes Arquitectos, he is launching his own editorial project, Momentum which has been selected to be part of the Spanish Pavilion at Venice Biennale 2018.

Urban Experiences Laboratory

Public-Private spaces in Benidorm

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Synopsis

Benidorm is described as a laboratory of experiences and situations lived by tourists and inhabitants, where quaint experiences are gathered in different spaces, places and non-places of the city. In such areas, there are several controversial and conflicting points among them. In Benidorm, the tourist spot has become a stage, a place to stretch, transform, exaggerate and enjoy the reality it offers. The non-places in Benidorm have evolved to become exclusive places in this city, hence, proposing their study and experimentation in a prototype that seeks to enhance the hidden complexity of this land in order to comprehend better its reality and its success. The way in which visitors and inhabitants of different ages coexist together in Benidorm.

Key words: Manifesto, critique, urban space, prototype, social.

1. Explanation of the project

The project begins with the analysis of the space that the city of Benidorm offers, using for that purpose the definition, description and assessment of the different experiences, situations and interactions that tourists and inhabitants experiment in the different places and non-places of Benidorm.

1.1. Objective

The experiences, interactions and situations lived by all inhabitants and tourists from Benidorm have never been registered. Nonetheless, they are powerful and potencial situations of the city, as well as representatives. Thus, it is the aim of this project. It pretends to go deeper in the particular situations and experiences of the people that exist in the common spaces of Benidorm. Furthermore, it analyses them objectively to demonstrate their success in order to propose new experiments in their public-private spaces.

1.2. Reasons that justify the interest of Benidorm

Drawing from the photographic approach from an experienced point of view, Benidorm could be understood as an urban laboratory, which may be used as a form to experiment with social relationships and its private and public spaces as well.

As the photographer from the Magnum Agence Martin Parr said: “Benidorm is an interesting place where people are mixed. Being interesting to study this clash of cultures, how the day have to be structured in the same place depend-ing on where people come from.” This clash of cultures is the reason why the project is focused on examining the interactions, experiences and situations among international and national tourist and inhabitants.

Figure 1.

Throughout photography (Fig.1) can be defined the complex reality which is given in the streets. It can be seen perfectly what happens, even create stories by ourselves. Thorough them, it can also be obtained a register of the afore-mentioned curious, unusual and exceptional situations which occur in the whole urban streets and, especially, in specific spaces that currently are not legislated and have been taken ownership of them according to the interests of the city.

2. Methodology

In Benidorm, the multicultural variety lives together in the same space. Because this, in order to understand this fact and the current Benidorm, it is very worthwhile to identify the evolution of its urban zones. To this effect, a study and research was conduced to know the growth and development over the year undergone by the city of Benidorm and the progress and increasing complexity of the relations between tourists and inhabitants in connection with the places and non-places of Benidorm. For that propose, by means of cartography can be determined the historic development of Benidorm. Lastly, the current Benidorm is criticized with the help of narrative and the historical description.

2.1. Characters

A natural and exceptional frame just as a human, dynamic and receptive popu-lation are the base elements that can explain the growing process of Benidorm.

Therefore, a factor to develop is the affluence of tourists (Fig. 2): half of foreign people and half of Spanish people. With this fact, it is really stated the type of people who use the public spaces, as well as the huge English collective that exists. Furthermore, the type of tourism, in which familiar tourism is predominant.

Figure 2.

2.2. Chrono cartography

In relation to the data previously mentioned, it has been created a psycogeog-raphy that is aimed to reflect the duality between a touristic city inhabited mostly by Spanish and the foreign who live because of tourism. All these aspects are connected to the Benidorm spaces. Both personalities have their peculiarities that, sometimes, can clash or being by mutual agreement. (Fig. 3)

The most controversial points of Benidorm are the society (foreign people vs. inhabitants) and the space (pubic space vs. private space). So as to understand the present, the accelerated growth, it was necessary to register what happened in the past.

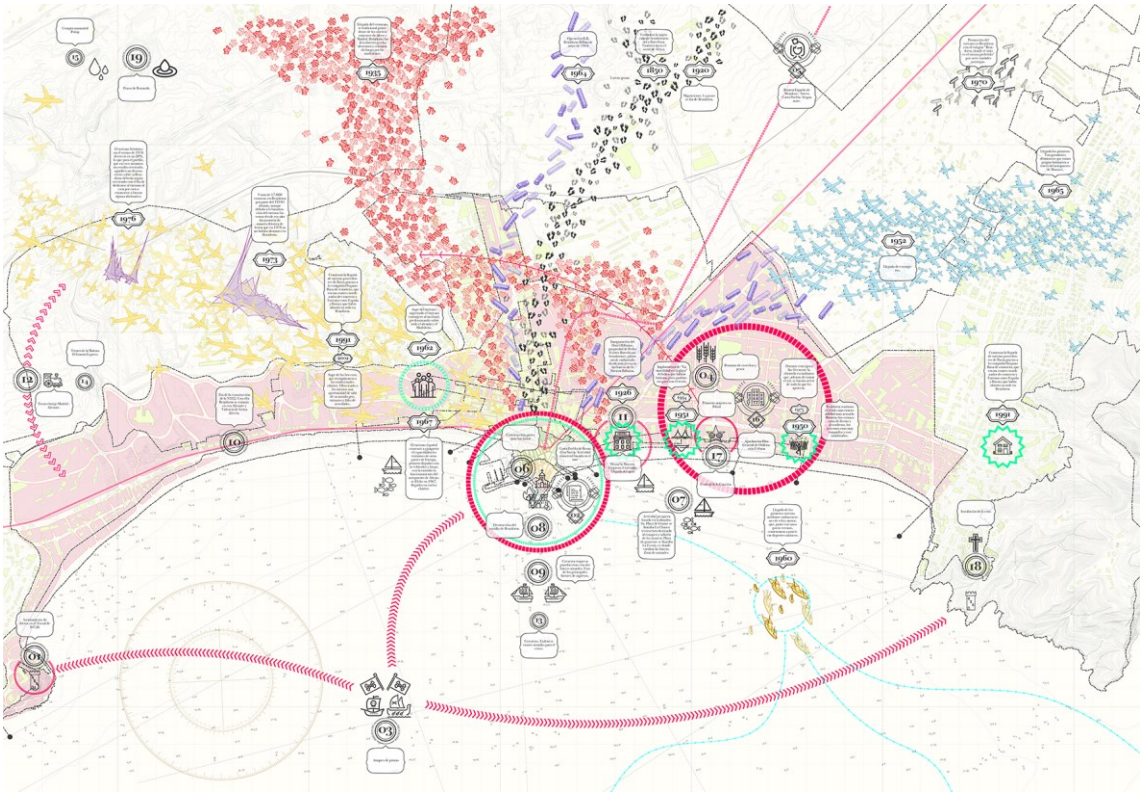

Figure 3.

2.3. Actors

To analyse the situation objectively, it has been taken into account in the opinion and the testimonials of 43 witnesses (Fig. 4). Moreover, others points of view have been considered, such as given by bibliographic references.

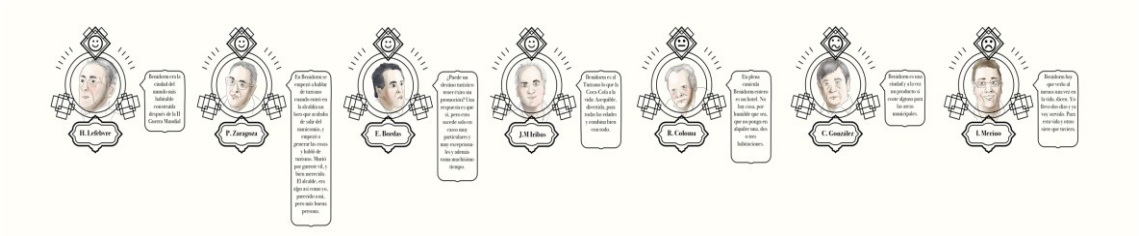

Figure 4.

2.4. Cartography of non-place

The non-place is a space where nothing concret is done, inhabited by anonimous beings. In Benidorm, non-places are found in the setbacks[1] (Fig. 5), which are spaces that, in the begining, do not have a specific use, there was not anything. Nevertheless, inhabitants of the city, depending on the use asociated to the colindant comercial local (or the use that they prefer to assing to the balcony), have been evolutionating and becoming in places with the very essence. The anonimous people are still there, no one know each other, but all of them interact in ephemeral situations.

[1] A street, usually leaving more space on the pavement (walkside) and balconies

Figure 5.

Figure 6.

And even being places that look like having a defined use, they finished developing in other places.

Benidorm, actually, has been shown as an amusement park, where oneself is the protagonist of such attractions (Fig. 6). The touristic space has become in a scene, a new place where both visitors and citizenships can enjoy the reality (Fig. 7).

The non-places in Benidorm have evolved until being exclusive places of this city, which are reflected in the prototype, where it is fostering (exaggerate, show, reveal) the complexity of Benidorm (the reality that is behind) is searched and it is enhanced.

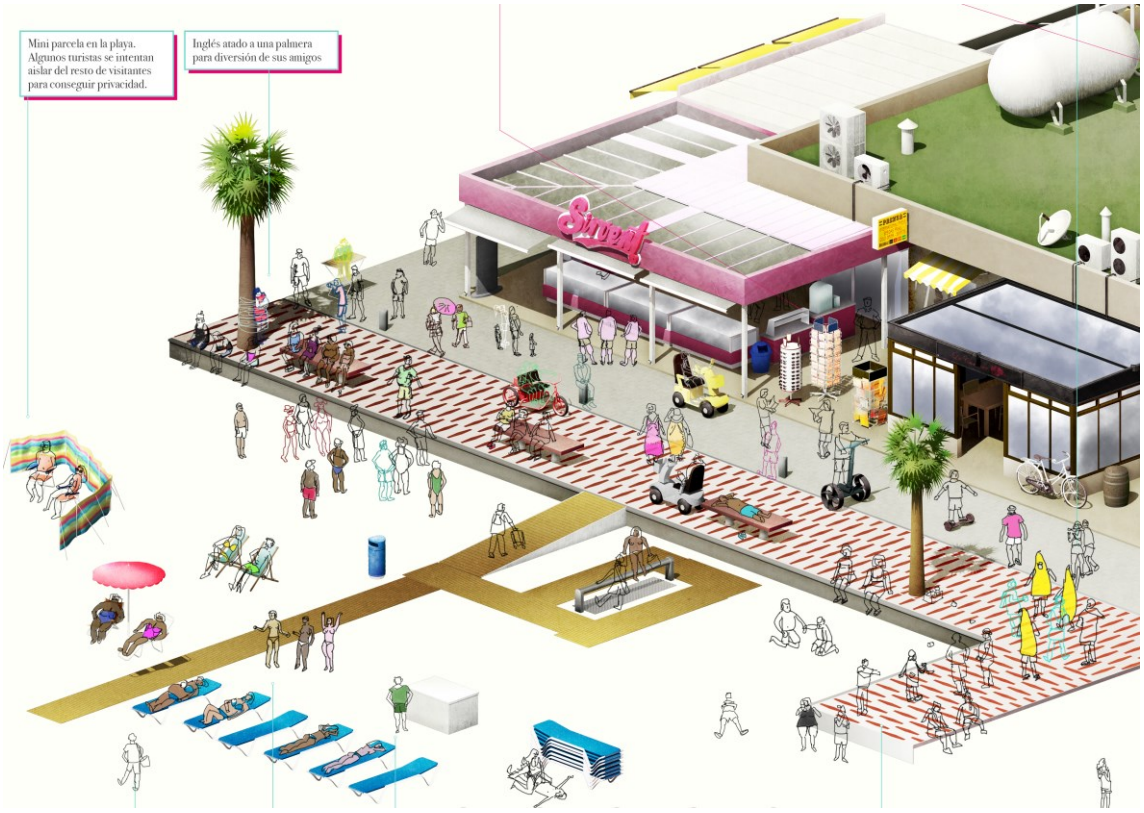

Figure 7.

3. Prototype

Finally, it was designed an experimental prototype (Fig. 8), which allows us to understand better the hidden reality, the complexity, the secrets of the success of the city.

In the prototype, the most apparent situations are praised in a new building, which collects all the unusual and unique uses that exist in the spaces in Benidorm (Fig. 9), and so on, is also understood as a claim to the tourist, as a sample that could arrive to some other places, as the branch of the almond do it by being a claim to a new public.

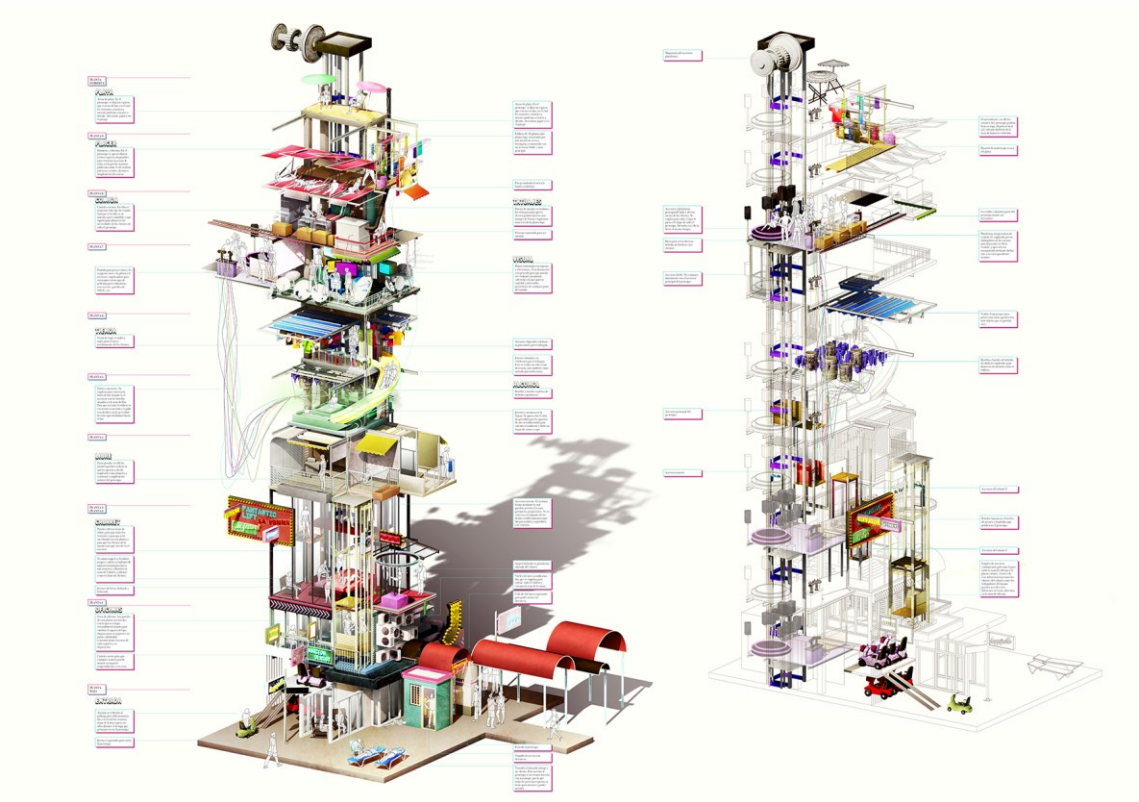

Figure 8.

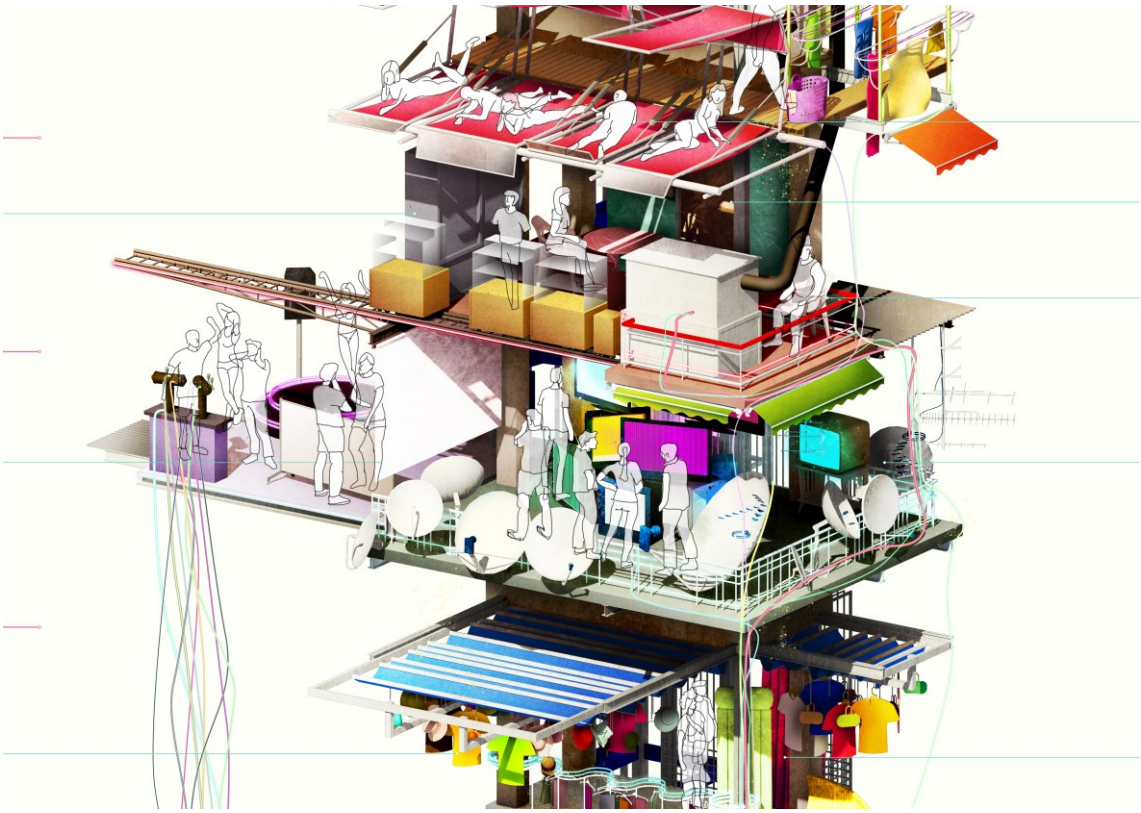

Figure 9.

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Biography

Jorge Flores Rodríguez. He was born on 9th July 1991. In 2017, he holds a Bachelor's degree in Architecture at the University of Alicante, with an excellent mark. In 2014/2015, he was part of an Erasmus programme at the Ecole Nationale Supérieure d'Architecture of Paris-Belleville from September to July, where he graded a photography subject. After that, his point of view has changed about the people interactions and how photography could help to caught them. When he came back to Spain, he devoted oneself to investigate the spaces, non spaces of Benidorm and how people interacts with them, being it the object and purpose of his final degree project. He has collaborated with Estudio Agraph since 2016. His project Urban Experiences Laboratory is exhibited at the Spanish Pavilion Becoming of the Architecture Biennale of Venice 2018.

Ecological Milan!

How contemporary Global and Local architecture and urban practices can change our idea of ecology and sustainability

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Synopsis

The main aim of this paper is to critically reflect upon the very notion of ecological practice principles, employing recent case-study practices in order to redefine contemporary culture that may affect future architectural projects, representations and practices. The noteworthy ready-built projects in Milan, will be under investigation for their loaded or real ecological values in their own scales as well as for the city. The attempt is to reflect upon the criteria which today Milan and citizens are expecting from the two main existing camps of ecological practices; one with considerable financial and physical corporative-like scale and the other with local grassroots participatory approaches. The paper though tries to portray the critical contemporary landscape of ecological practices in today's Milan, where binary oppositions like globalization and localization, top-down private and bottom-up participatory processes, high and low tech, artificial and natural solutions are in direct dialogue with each other.

Key words: Milan, Ecological practice, Sustainable Culture, Global/Local, metropolis.

The paper is aimed to critically reflect upon the very notion of ecological design principles in contemporary practices. The main hypothesis is based on the fact that advertising and claiming "ecology" for contemporary architecture and urban practices, may not necessarily result a real ecological practice. Technology, innovation and advancement of architectural techniques and materials may be great aids toward more ecological result however, it is not sufficient to call a building neither ecological nor sustainable only using those.[1]

The main aim of this paper is to explore contemporary case studies in Milan which has been surfacing either with significant urban and architectural transformations or gradually under the skin of the city, all since the beginning of the 21st century. The attempt is to learn from them, investigate them within their own expected outlines of ecology--either accomplished by international renowned architectural and construction firms, or by grassroots participatory processes-- and to re-evaluate their loaded and real ecological and cultural values in and for the city.

The significant ready-built projects in Milan such as *Bosco Verticale* and *Porta Nuova project, Feltrinelli Foundation* and *City Life* projects are under investigation in this comparative paper. Those kind of practices which have global advertisement scale, designed and built mostly by *archistars* (= Starchitect), has more international architecture and urban languages and most of all use very much advance technologies and materials. They are representing the new image of Milan, as one of the major capitals of contemporary Europe. And, of course, there is always a claim of sustainability. Some certificates, like LEED, are also confirming that claim, and that by itself effects on the popular culture and expectation of the city.

This newfangled trend of change in urban morphology and typology of Milan is faster, bigger and more exaggerated than any similar ones since post WWII reconstructions period, especially in terms of their international publicity. For instance, within less than five years from its construction, *Bosco Verticale*--with its four green façades and the claim to produce significant amount of oxygen and biodiversity per year-- became a new model of housing and botanical verticality, published even from early phases in American journals and very fast exported to Asia and in specific in China. It is fashionable, innovative and lots of technological and botanical advancements and engineering has been put into it. The popular culture loves it, and it triggered more important international attempt of future urban foresting ongoing by the same Architecture firm.

However, further observation is desirable for this new trend to be agreed truthfully ecological especially for their economic concerns and their social outcomes. In the case of *Bosco Verticale* for instance, the two towers' embodied energy, technological costs and energy consumption of the towers or the continuous maintenance costs and efforts that especially planted facades of the buildings require during their lifespan, are some factors which enquire future studies.

The other end of spectrum of today Milan ecological practices is what this

[1] Biraghi, 2017.

paper would like to call “local grassroots practices” where normal people, citizens and migrants participation in a very local and mostly low-tech practices manifest under Milan city skin[2]. Projects like *Welfare di tutti, Urban farming programs*[3], Earth Service, TerraViva workshops, ASC (*Attivare Spazi Comuni*), *Green Island and aMAZE cultural lab*, are practices with very small scale and ambitions, genuine participatory oriented and again claim to be ecological, yet their approach is identical much different from the first category which was explained. Also, this second trend is very successful and actors involve has arrived to actualization of their ideas, people participates actively and their programs are moving forward. They have their own impact on Milan and their own aspect of being ecological practices.

Nevertheless, there always remains an uncertainty about the actual and future possible horizon of those practices; if those grassroots practices within small scales, will be able to reach out to neighborhood scale and push the boundaries to reach the city scale, and therefore raising up consensus through the process toward upper levels of the city administration, and produce a real paradigm change in the city culture.

This paper dose not claim one trend for the other, as both shape the overall culture of contemporary Milan architecture and urban practices. To comprehend better the definition of ecological practices and their principles in between those actual existing trends, one should critically reflect upon at least the existing aspects of ecology in those practices. What are the contemporary and relevant aspects of being ecological which one can redefine the two trends with? Is it enough to rethink of ecological practice in terms of conventional categories like materials and construction technique or plants and greenery or there is a need for a fresh view on non-conventional factors?

For instance, an event such as Milan Expo 2015 as the main context/platform for both trends, can be considered as a tangible trigger for both the two toward more ecological post-Expo architecture and urban practices? Has the cultural impact of such mega event facilitated any of the two trends towards their desirable horizons? Having reviewed selected practices from both trends, it may be possible to portray more in details the critical contemporary landscape of ecological practices in Milan, see-through different aspects of those practices in two ends of the spectrum of current trends, where binary oppositions like globalization and localization, top-down private and bottom-up participatory processes, high and low tech, artificial and natural solutions are in direct dialogue with each other.

Once again in this context, the two categories of *global* and *local* confront each other, acting on a script in which the dialectic between the two terms struggles to find a comparative common ground. Both practices associated with each, presented in this text, declare to be ecological, and in their own ways, contribute to defining and expanding the culture of sustainability. It would be advisable to begin to critically interpret the actual ecological nature of these practices, the extent of their impacts, the coherence of their choices, with the aim of constructing a more effective dialogue between the cultures of sustainability and

[2] Ingersoll, 2004.
[3] Donadieu, 1998.

ecological practices in the city.

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Biography

Marco Bovati. (Milan, 1968) Architect graduated with honors from the faculty of Architecture and received his Ph.D. cum laude in Architecture and Urban Composition, both at Politecnico di Milano (2005).
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His research topics include: the relation between architecture and urban design and sustainability; Energy cycle control and environmental quality; strategies for sustainable architecture and urban regeneration, with particular attention to the intermediate urban scales (block, district); the role of environmental features in defining the guidelines for future interventions; reuse and recycling of abandoned soils, buildings and tissues in contemporary city.
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Metepistemological Peratology

Perspectives on the Limit in Art, Science and beyond

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Synopsis

This paper is part of the author's doctoral studies, focused on the Architectural Ecotonics. Architecture is the art and science of the built limits, but the limit, in this case, is a complex system that we study from different perspectives, considering a comparative and metepistemic approach that we define, calling not only architecture, but also literature, mathematics and music into the argumentation area. The boundary spaces studied by the Ecotonics are the key to an environmental integration of architecture and a new approach in theoretical and applied ecological policies. The bath(m)ological perspective on the limit is both a filter and a solution we propose for the topological interpretation of the limit in architecture as well as for the new, broadened epistemological approach. Fuzziness, interference and harmony have a synergetic influence on the main concepts. Architecture has particular characteristics, offering the opportunity to challenge the other discipline's limits and, ultimately, re-definitions.

Key words: Limit, Fuzziness, Bath(m)ology, Ecotone, Metepistemology.

1. Architecture as Peratopology

Architecture developed in times when disciplines spread on wider territories and they tended to preserve that character some time after the classical "*polymathes*" or the "*homo universalis*", until the deep specializations were imposed. Even more, the limits between disciplines were more flexible and more often ignored. An architect was, in most of the cases, an example of universal man, with his culture covering vast areas of knowledge, a philosopher closer to the matter.

Architecture has another privileged position in this context: it is the art and science of the limits in space, a "*peratopology*", as defined in the author's previous studies, from the Greek terms "*peras*", limit, "*topos*", place and "*logos*", science. The ancient Greek verb "teucho" meant, indeed, to manufacture, to build, but the *"teuchos*", from the same root, meant tool, weapon, furniture, as well as vase, vessel, pot, barrel and, generally, any object with a cavity like a pot, a solid limit closing a void, like the carpenter's work was covering, closing, limiting the interior space of a building. The chief carpenter, the "*architekton*", was the one having the knowledge to imagine and build this kind of material, well-crafted, solid limits.

2. The thin limit

During the evolution from the shelter to the architectural work, in the attempt to protect themselves against some of the natural forces and other attacks from beasts or humans, men started building structures able to limit these forces and dangers, aiming to de-limit their own micro-environment, to de-fine, therefore, those specific "*peratopological*" structures in the environment that could provide the suitable living conditions for them. These structures, superior harmonics of the natural environment, were build as an inverted and introverted biotope, on the model of an inverted chord in music, where the root is no longer in the bass position. In many cases, however, these structures were built as thin density concentrations, a sharp edge between interior and exterior spaces conceived for isolation, but this kind of built limit also translated into mesostenotic configurations, strangulated in the in-between environment, narrow spaces of discontinuity in ecosystems' flows of matter, energy and information.

We could not find, in the theory of architecture, an expression of this model of the thin limit as we found in literature, with Ovidius' *Epistulae Ex Ponto*, his letters from the exile. The situation was also paradigmatic, the poet being away from Rome, in a hostile territory and a hostile climate, but his poem offers an exemplary expression of this architectural paradigm, in a pair of substantives sustained by a pair of attributes: "*discrimen murus clausaque porta*". This offers the unique image of the *discrimenion*, the separative element, an aporotic (non-porous) limit that can serve as an archetype for the work of architecture conceived as a masterwork of isolation. This approach, at different scales, inflicted deep wounds on the environment's constitution, generating pathological discontinuities and fractures, not only benign tensions and pushing both the systems' and development's limits beyond the nature's resilience capacity.

3. Peratological bath(m)ology

There is no direct mapping of the limit's depth and complexity on the time axis, no continuous evolution from one extreme to the other, the models overlap in time and space and we can find remarkable examples of complex limits in the ancient architecture as well as in contemporary approaches the same way we can identify thin shells examples in all historical periods, although we might notice that modern materials and technologies provided the means to build thin and, at the same time, efficient enclosures.

This is the time when the limit in architecture has to gain, together with its porosity, its own depth and we studied this in a bath(m)ological perspective, identifying those limits that have their own special and spacial identity. A zero-degree limit is the fracture, the fault, the rupture; a first degree limit is the one that operates a simple separation, a uni-dimensional limit between two-dimensional entities or a two-dimensional separation between three-dimensional entities and so on; a second-degree limit is a limit that can contemplate its own limits, has its own substance and territoriality.

4. Architectural Ecotonics

Following the study of limit's complexity, degrees and depth, on the basis of a metepistemological and comparative approach, the author defined Ecotonics, the study of transition spaces, within the peratopological studies, expanding and redefining the ecological term of ecotone. As previously stated, "Architectural Ecotonics focuses on the shift from the direct to the inverted state of anthropic spaces' harmony, setting the transitions places, the mesotopies, at the base of these structures, instead of the main functional units, conceived in dichotomic constitution." Ecotonics were certainly defined on general topological basis, although a strict architectural perspective involves certain metrics and measurability.

Considering an Architectural Fuzzy Sets Theory that can provide complex transition spaces as core principle of the architectural limits' constitution, in direct connection to the harmonic structures the author studied, illustrated by the anacrustic and metacrustic components balanced around the crusis density manifestation in a metepistemic and comparative topological structure, the fuzzy limits of the interior spaces can change the nature and the density of the shell in the work of architecture.

The peratological bath(m)ology applied to the study of complex natural and anthropic (eco)systems focuses not only on the complexity degree of those main and boundary systems, but also on a referential degree that transforms the simple limit in a second degree limit as a space in itself, offering a chance to the restoration of the continuity, throughout the boundaries, of the potential homotopic ecosystems' structure.

5. Metepistemic perspectives

We can distinguish, within the epistemic continuum, the same symptoms we identified, with the mesostenotic artificial structures, in the ecosystems, when the disciplines try to define their own isolated, endemic rules, principles, ideas and methodologies.

We prefer, for several reasons, the term "*metepistemic*" and try to propose it instead of "*transdisciplinary*", one of the reasons being the fact that we find the "*episteme*" Greek term, that generally refers to knowledge, a richer and more seductive perspective than the Latin "*disciplina*", that evolved into the present term "discipline" and the narrow areas of specialization.

"*Metepistemic*" is a composed word, with the double Greek root "*meta*", meaning with, after, following, between, among and "*episteme*", meaning science, art, knowledge, ability, spiritual activity in general.

Like many other languages, ancient Greek used elision to avoid diaeresis, the occurrence of two vowels in adjacent syllables. The elision is the discharge of a short vowel at the end of a word and before another word that starts with a vowel, while the discharged vowel is usually replaced with an apostrophe, but in the interior elision that occures in compound words, the apostrophe disappears and this is why we proposed the form "*metepistemic*" and not "*metaepistemic*". This was the case of several compound words in ancient Greek, with the first root being "*meta*" – and we will artificially mark here with a hyphen the distinction between the two components of the word –, starting, alpabetically, with met-aggelos (messenger), met-ago (to transport), met-algeo (to regret), going further with met-ekdyo (change the clothes), met-empolao (resell) and many others, including met-empsycho and the term met-empsychosis, used in many other languages, that is not spelled metaempsychosis.

Defining architecture or any other knowledge area involves tracing its limits, a concept marked already by the peratological bath(m)ology – the study of the limit's degrees and depths – and the complex semantics starting with the Greek terms of "*peras*" and "*poros*". As the author previously wrote, "*porosity is a quality, a dimension and a characteristic of the limit and this is how disciplines are defined [...]. Through this porosity, the concepts, principles and methods of a discipline can escape and interconnect on a higher level of generality, in the area beyond the discipline limits [...].*"

6. Conclusions

Principles and methods specific to certain disciplines can freely invade the metepistemic space, the disciplinary mesotopy, through the pores of the disciplines' limits and find synaptic connections with other disciplines. Architecture, the mastery, through art and science, of the built, material limits can be the flagship, among other disciplines, of this new, metepistemic perspective.

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Biography

Adrian Vidrașcu. Is an architect, since 1990, when he graduated the “Ion Mincu” University of Architecture and Urbanism. His work was mainly centered around the concept of the limit, from a transdisciplinary, metepistemological and comparative perspective, on one hand, and on the Sustainable Architectural and Urban Development, on the other. His research work consists of basic, fundamental research studies, using methodologies and tools often connecting to other disciplines. His activity mainly unfolds in the context of the Technical Sciences Department of the “Ion Mincu” University of Architecture and Urbanism activities, with several conferences held and articles published on the topic of the peratopology and Architectural Ecotonics.

A *Retroactive Interference* between Art and Architecture

A Research Experience between Art and Architecture about the Vele in Scampia and its Future

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Synopsis

Thinking about the architectural project as a broader process first requires reflecting on the role of architecture in urban transformation. In different ways the project becomes an element of interpretation of the real world, and the architect, as an author, conquers a position that goes beyond the classical boundaries of the discipline, through the contamination with other disciplines. Art has always been an interpretative tool. In particular, the research presented focuses on the retroactive interferences between Art and Architecture and on the ability of architecture to extend the limits of the imaginary, both as a discipline capable of interacting with different skills, and as an architectural artefact considered as an Open Work. The architecture of the ”Vele” in Scampia is the protagonist of this research, that supports the production of the background material as part of a visual art project of the photographer Hans Wilschut for the Center for Visual Art CBK in Rotterdam, carried out in collaboration with the curator Patricia Pulles. The architecture of the ”Vele”, the impressive visual impact and the interesting architectural structure that is still present, but heavily damaged, and the impact that this architecture has on the perception of the same inhabitants and the actual decline of the area towards a new future, are the key topics of this extended abstract.

Key words: Ecological thinking, architecture, disciplines, society, hope.

1. Introduction

The urban studies in recent years are shifting the focus on the search for "new materials" that aim to solve some problems of cities, linked to climate change and the risks associated with it. In the first place this leads architecture, and in particular the architecture that looks to the city, to regain a central role with respect to society: central because it is a tool for the convergence of a series of related skills that widen the gaze of the discipline. Who is responsible today for how our cities are made?

The task of making the city is not a sum of individual categories. Politicians, administrators, architects, urban professionals, all feel somehow protagonists of the processes that affect the city. In reality today there is not a single profession able to link different agendas, ways of thinking, skills and basic jobs[1] (Landry 2009).

In this sense, the reflection on the "ecological thinking", on the idea that every information or knowledge is inseparable from its cultural, social, economic, political and natural context and on the need to simultaneously hold together a series of knowledge in the project, it's the basis to be involved, as designers, researchers and educators, in the design of the contemporary city. "The separation of disciplines makes it impossible to grasp what is woven together. [...] There is a complexity - when the different components that constitute a whole are inseparable- [...] and when there is an interdependent, interactive and inter-retroactive link between the parts and the whole, and between the whole and the different parts"[2]. (Morin 2000)

This thought is dynamic and stimulate the search for relations between each phenomenon and its context. It is a matter of considering political ecology as a democratic science at the basis of teaching. (Latour 2001) In this idea of "ecological thinking", art re-conquers its function in "revealing" the relationship between the humans and the world[3]. (Dorfles 1968).

In Architecture this idea of "ecological thinking" refers to those transformations of contemporary culture that affect the architectural project redefining its scope, in different aspects: the ethical aspect, the collaborative approach, the relation between techniques and poetry, the social dimension.

In different ways the project becomes an element of interpretation of the real world, and the architect, who is the author, acquires a position that goes beyond the classical boundaries of the discipline, through the contamination with other knowledge. Art has always been an interpretative tool. Today the role of the architect has changed, and consequently also the research that it is opened to collaborations, with public bodies, with professional studies, with associations that operate in the social, artists and cultural centers.

The relationship between architecture and humans (its inhabitants) is today one of the most important topic to be discussed in our research field.

Precisely this quality of architecture to coordinate (by vocation, as Gropius

[1] LANDRY, 2009 p.309
[2] Edgar Morun in his esay "La Testa Ben Fatta" introduces the concept of interconnection between disciplines in edu-cation
[3] DORFLES, 1968 "in Artificio e Natura" pag. 20-21

says) on one hand makes it open to endless opportunities for comparison, which could be called *interference*, and at the same time makes it capable of influencing other kinds of processes.

2. *Retroactive Interferences* in Scampia between Art and Architecture

In particular the research presented in this abstract focuses on retroactive interferences between art and architecture and on the ability of architecture to extend the limits of the imaginary, both as a discipline capable of interacting with different skills, and - in its proper meaning - as an *architectural artefact* capable of extending and modifying the life of its inhabitants. “Any relationship between a building and its users is one of violence, for any use means the intrusion of a human body into a given space [...] The architecture should be pleasing to the eye as well as comfortable to the body...The love of violence, after all is an ancient pleasure[4]. (Tschumi, 1979)

The Interference theory refers to the *interaction between new learned material and past behavior, memories or thoughts that cause disturbance in retrieval of the memory* (Psychestudy 2018). A Retroactive interference in neuroscience[5] is defined *as a memory interference by any post-learning material* (Muller and Pilzecker 1900). It occurs when newly acquired information causes us to have trouble remembering old information.

This reflection came into my mind considering the research experience carried out – as architect and as researcher expert in architectural and urban studies- in collaboration with curators, artists and NGOs in Naples, where art is considered as a tool to better understand the city. Those projects have in common the reflection on “Memory” as a *post-learning material* (as a retroactive interference).

Several artists have been collaborating with architects, and uses the architecture and the city as an experimental field.[6]

The research presented in this text is about the elaboration of background materials for a visual art work on Scampia by the photographer Hans Wilschut and carried out with the art curator Patricia Pulles[7].

Starting from April 2017, with a visit on the site in the area of the Vele in Scampia, the research has been carried out between September 2017 and

[4] Tschumi in its Advertisement on Architecture challenges designer to consider the possibility that the design cannot be innocent.

[5] Müller and Pilzecker (1900) addressed some of these issues in a remarkable manner but their observations have been mostly ignored in recent years. Müller and Pilzecker showed that the materials and the task that intervene between presentation and recall may interfere with the to-be-remembered items, and they named this phenomenon “retroactive interference” (RI). They further asked whether there is a type of RI that is based only on distraction, and not on the similarity between the memoranda and the interfering stimuli. Their findings, and our follow up research in healthy volunteers and amnesiacs, confirm that forgetting can be induced by any subsequent mentally effortful interpolated task, irrespective of its content; the interpolated ‘interfering’ material does not have to be similar to the to-be-remembered stimuli. In Forgetting due to retroactive interference: A fusion of early insights into everyday forgetting and recent research on anterograde amnesia, Michaela T. Dewar, Nelson Cowan, Sergio Della Sala. Cortex. Author manuscript; available in PMC 2009 Feb 17. Published in final edited form as: Cortex. 2007 Jul; 43(5): 616–634 - U.S. National Institutes of Health's National Library of Medicine (NIH/NLM).

[6] Let’s think to the movement of the “Arte nel Sociale” carried out by Enrico Crispolti in Italy and in Napoli in the Seventies, or to the most International work of Gordon Matta-Clark. Matta-Clark spoke to interviewers of being fascinated by the architectural spaces, or ‘recurrent dream spaces’ as he called them, each of us stores within the mind, and that one of his proposals to the Anarchitecture Group was concerned with ‘designing for memory’.

[7] The project has been funded by funded by the Center for Visual Arts "CBK" of Rotterdam.

January 2018 in providing the background materials for the production of a film through a series of interviews and interactions with the families and the study of the housing structure of the building and its relation with the context.

The work sees the architecture (and its inhabitants) as protagonist, the skin of the buildings, the size, the spaces, the corridors of the Sails, the sound that is evoked by the same materials, the steps of the people crossing the building trampling deteriorated stairs, the voices of its inhabitants, the "intrusion of the hman body" into the space. The images tell of a memory that the same architecture tells. "Design is the most human thing about us. Design is what makes the human. It is the basis of the social life, from the early artefacts to today's ongoing exponential expansion of human capability".[8] (Colomina, 2016)

The stories of the inhabitants interviewed highlights conflicting feelings about the "Vele" as architecture, conceived as home and at the same time as a cage.

Built in the 70s by a project that interprets the canons of the modern movement and looks at the utopia of metabolic aesthetics, the "Vela" becomes an icon of time, an architecture capable of transforming itself from an icon to a modern ruin. (Fig.1)

The architecture of the "Vele" has been considered as an "icon". The power of the design, the impressive visual impact and the interesting architectural structure that is still present, as well as the subsequent modifications that however have not altered its imprint, became part of the collective imagination of both its inhabitants and people that looks at it from outside.

Figure 1. The Vele in Le Occasioni di Rosa, film by Salvatore Piscicelli, 1981.

Today the Vele are in the collective imagination synonymous with degradation, delinquency, and represent the dark image of a society bent to the logic of criminal organizations. That same gloomy image is reflected in the soul of those who live there, it is difficult to hear the word hope, difficult - if not for children to imagine - a new future.

The City Council of Naples has decided, on the basis of a project carried out in collaboration with the Department of Architecture and the "Comitato Vele" the association of Inhabitants who lives in the Vele, in 2017[9] to demolish three of the exhisting Vele. A public competition will be launched after the demolitions.

[8] COLOMINA, Beatriz, Mark WIGLEY, 2016. Are we human?. Lars Muller Publisher. Pag.11,12

[9] The project RESTART Scampia was carried out by the Assessorato ai beni comuni e all'urbanistica – Department of Urban Planning of the City of Naples, by a team leaded by the Councilor Carmine Piscopo, and it was approved in August

3. The architecture as an articfacts, from “Icon” to an “Open Work”[10]

Architecture through its ability to extend the limits of art crosses the image and gets to talk to the inhabitants, from the betrayed project to the demolition, so much discussed, as desired, a demolition that leaves space to hope a new future, new capacity for imagination. (Fig.2).

Figure 2. Modern ruins, the Vele. Photo of the Author, November 2017.

In this case the interference between art and architecture manifests itself in its key role in the interpretation of the work, focusing on a historical moment that sees the end of an era approaching the history of urban transformations of the city, and above all, looking at a new future, at the mental construction of a new image. Art brings to light the real nature of an inhabited architecture. Art helps to reflect on space, through a political approach in reading the landscape.

4. Open conclusions

The case of Scampia is not an isolated case, how do large transformation projects influence the collective imagination and how are these experiences communicated and perceived by the inhabitants?

What are the hopes and dreams about the new project and the upcoming transformation? What is the real perception of the inhabitants compared to the architecture of the Vele? The research has highlighted the contradictions that the iconic architecture of the Vele represents for its inhabitants: retroactive interferences that bring to light positive and negative aspects of a iconic architecture that is the true protagonist of this project.

The research underlighted several points that help us to think about the role of architecture. The architect can interfere in several ways in the process of urban regeneration, and such interference become a useful tool to support decision-making processes.

The architecture of the Vele as an Open Work, the inhabited space and its relation with the context has a great impact on the life of inhabitants. A new project for Scampia – after the demolition of the Vele - has to take into account the several retroactive interferences between Architecture, Memory, Imagine, Hope, Future.

2016, the process is ongoing, within the next months the first Vela will be demolished.

[10] Umberto Eco introduced the notion of openness of the Art Work with his essay “Opera Aperta” translated as “the Open Work”.

This is a research in progress, that will follow the further phases of demolition and idea competition launch. During the conference the materials and the progress of the research will be presented compared to the second phase of the project that will be carried out in the following months.

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Biography

Maria Luna Nobile. Architect, and Doctor of Philosophy in Urban Studies she is actually Adjunct Professor in Architectural and Urban Design at the University Federico II in Naples. Her research focuses on the design of the contemporary city, with special attention to the urban regeneration local policies, interdisciplinary and innovative practices especially focusing on the relation between urban development of the city and social issues in the era of climate change. As designer, she also takes part to public competitions on both small and large-scale. Her main publications are on the topic of the interdisciplinary approach of architecture dealing with the global changes. From 2010 she is part of the Organizing Committee of EURAU Symposium, and she is member of the Scientific Committee of the 9th edition of the congress: EURAU 18 on the topic RETROACTIVEARCHITECTURE, organized by the School of Architecture of Alicante University.

Ecological Footprint to Assess Sustainability of Educational Campuses

University of Kurdistan as a Case

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Synopsis

The Ecological footprint (EF) has been increasingly acquired attention as an index to measure the sustainable development during last decades. It was originally emerged as a measure of sustainability since it highlights biophysical limits of the consumed resources. In general, educational campuses usually encompass ample areas, and are associated with diverse disposal resources and consumption patterns. The study seeks to measure EF index as an effective indicator for University of Kurdistan Campus (UOKC) in Iran, consider appropriate methods all to gain specific values, and provide useful information available for the university community in terms of the environmental respects. To do so, this paper involves a componential method of the EF to calculate the UOKC's EF level. The Results demonstrated that the largest component was the EF level of energy, accounting for 44.52% of the total EF, then, the EF level of wastes, and the EF level of the traffic located second and third level respectively. All in all, regarding the results, UOKC can be assessed as unsustainable area thanks to the total EF which is high at roughly 66.8 times larger than its own campus' area.

Key words: Sustainable Development, Ecological footprint, University of Kurdistan campus.

1. Introduction

By the end of the 20th century, in response to a growing environmental crisis and inequalities in global development, Sustainable Development (SD) was widely adopted by the international community as a leading development model. It insists on maintaining natural capitals since the consumption is dependent on the availability of renewable resources (Bicknell et al, 1998). To measure sustainability, much have been done on such predictor indicators as Sustainable Socio-Ecological Indicator (Christian, 1996), Index of Sustainable Economic Welfare (ISEW ((Daly and Cobb, 1989), Genuine Progress Indicator (GPI) (Anielski and Rowe, 1999) and Genuine Savings Rates (World Bank, 2000) and so forth. Amongst them, Ecological Footprint Assessment (EFA) was applied as a method in the 1990s to measure SD. The foot printing process can help researchers to find some of the "hidden" environmental costs imposed by the consumptions pattern (Venetoulis, 2001). There has been an increasing focus on the evaluation of environmental performance of businesses, organizations, and governmental institutions as a means to channel environmental management efforts (Lenzen et al, 2010). Perfect examples of such institutions to which many attentions belong are educational campuses. This has increasingly highlighted by such specific conferences as (EMSU) and several rankings (e.g., EESD) on the campuses[1] environmental performance (Ferrer-Balas et al, 2010). Most of these initiatives follow three broad scopes: (i) determining role of the universities in knowledge-extension, (II) integrating sustainability into educational and research plans, and (III) Setting environmental issues significance in the society (Stephens and Graham, 2010; Waas et al, 2010). A number of campuses have diversely published EFA studies (Conway et al, 2008; Dawe et al, 2004; Flint, 2001; Li et al, 2008; Venetoulis, 2001). So, as case- based study, the research focuses on the UOKC, as a regional ample-sized one in Iran, to assess environmental impacts and determine the level of sustainability there in 2013 using EFA.

2. Literature Review

Sustainability is a key issue for all organizations in the 21st century (Rusinko, 2010). As a specific community, the universities cannot neglect the issue of sustainability. Beringer et al (2008) recognized that sustainability is an important issue for universities around the world as well. Every year, the number of students who further their studies at universities is increasing. D'Amico and Brooks (1968) pointed out that regarding population growth and industrial and technological development, the universities should follow a long-term strategic development plans to meet the essential needs of today while paying much attention to the probable impacts of the campuses (D'Amico and Brooks, 1968). Thus, the formation of a sustainable campus can provide opportunities for higher education institutions that show the progressive principles and be a model to the larger community (Franklin et al., 2003). Based on these facts, it is highly probable that the sustainable campuses will impress cities in many ways. These will show us that how much is important to follow the idea of a sustainable campus, as it could be the basis of a broader urban

[1] Environmental Management for Sustainable Universities
[2] Engineering Education for Sustainable Development

sustainable development concept. Concerning these points, there are different definitions to clarify the notion of sustainable campus. These can be illustrated by such keywords as lower negative impacts, healthy ecosystems, economic growth, social promotion, people well- being, conserved ecologically at universities (Cole, 2000; Habib and Alshwaikhat, 2008). Regarding them, it could be inferred that sustainable campus is a notion that describes a special type of university development that seeks to improve the quality of human life in general, and focus on a set of balanced social, ecological and economic goals in particular.

To measure the degree of sustainability of campuses, EF has gained much more attention in the academic communities since being out by Wackernagel and Rees in the 1996 (Erb, 2004). As a definition it can be described as “The corresponding area of productive land and aquatic ecosystems required to produce the resources used, and to assimilate the waste produced, by a defined population at a specified material standard of living, wherever on Earth that land may be located” (Rees, 1996). To facilitate the complex analysis, Wackernagel and Rees constructed a matrix titled as Consumption–Bio Productive Area listing five major consumption categories in conjunction with six major bio productive area categories. Consumption categories include food, housing, transportation, consumer goods and services, while bio productive areas, which refers to all areas that contribute to bio capacity (Wackernagel et al., 2004), include energy land, built-up land, fisheries, cropland, pasture and forest (Bicknell et al., 1998). The calculation procedure proposed by Wackernagel team imports statistics of consumption and population to estimate the ‘average person's’ annual consumption for several items in each of its categories. The total per capita EF can be finally achieved by summing all ecosystem areas dedicated to each item consumed during a particular period (Bicknell et al., 1998). Several organizations have already calculated the EF at different scales, ranging from individual (Friedland et al., 2003), organization (Barrett and Scott, 2001), urban (Folke et al., 1997; Muñiz and Galindo, 2005), regions (Ferng, 2001; Knaus et al., 2006), nations (Wackernagel and Rees, 1996) to worldwide (Loh, 2002). Over last years, the EF evaluation has been transformed to such smaller scales as universities (Flint, 2001; Bell et al, 2008; Venetolis,2001) or even urban schools (Gottelib et al, 2012). According to them, it is assumed that main components for EF calculation at universities would be energy, traffic, waste discard, food and paper.

3. Material and Methods

3.1. Study Area

The campus, located in the south of Sanandaj, consists of 10,000 full-time students, 206 faculties, and 192 staffs in 2013 (Fig. 1). It demarcated 91.7 ha land area including the built environments, parking lots, roads and impermeable pavements.

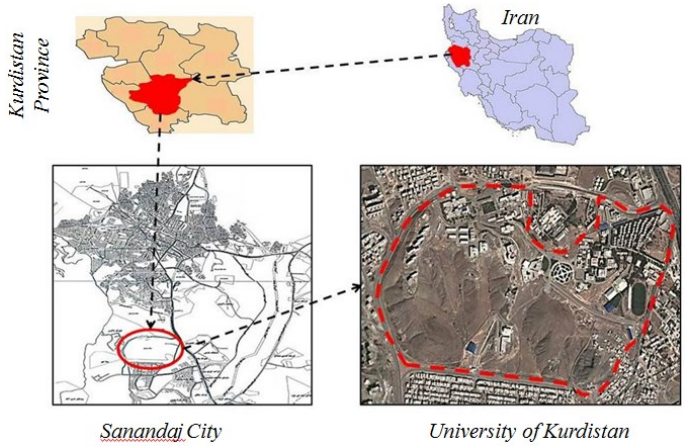

Fig.1 The campus location in Sanandaj, Iran

3.2. Data Collection

The data of electricity, natural gas, coal, water, food consumption and wastes were directly obtained from logistic management office at the campus. Besides, the data of transportation, paper consumption and the component of wastes were indirectly gathered by the questionnaires. The table below explains the data necessary for EF calculation including all kind of consumptions and wastes.

Table1. Consumptions and wastes data for UOK

Component		Total
Energy	Electricity	5199000 kwh
	Nature gas	649875ft^3
Water		155970m^3
Waste discard	Paper and textiles	3899.25t
	Garden and park waste and other(non-food)	95t
	Food waste	1299.75t
	Glass waste	129t
	Plastic waste	26t
Traffic	Car	51990km
	Truck	12997km
Food	Non-beeves, non-mutton	64987.5kg
	Cereals	31194kg
	Fruit	28594.5kg
	Sugar	5458kg
	Vegetable	6498kg
	Eggs	1169.7
	Beeves, mutton	9358.2kg
	Milk	3379.32kg
	Marine fish	2209.75kg
Paper		311.95t
Campus area		**ha**

4. Results and Discussion

The paper aims to calculate EF of UOKS and analyze the different components of UOK's EF using the componential method. The results of EF calculations are as follow in Table 2.

Table2. Ecological foot print of UOK

Component		EF(ha)		EF per capita(ha)
Energy	Electricity	2599.5	2729.47	0.26
	Nature gas	129.97		
Water		15.59		0.001
Waste discard	Paper and textiles	1052.78	1471.5	0.14
	Garden and park waste and other(non-food)	11.4		
	Food waste	129.98		
	Glass waste	245.1		
	Plastic waste	32.24		
Traffic	Car	1.56	2.85	0.0002
	Truck	1.29		
Food	Non-beeves, non-mutton	844.84	1191.69	0.11
	Cereals	9.36		
	Fruit	2.86		
	Sugar	0.27		
	Vegetable	0.32		
	Eggs	2.34		
	Beeves, mutton	280.75		
	Milk	6.76		
	Marine fish	44.195		
Paper		627.01		0.06
Campus area		91.7		0.009
Total EF		6129.81		0.59

According to the table above, the largest component was EF estimated for energy, accounting for 44.52% of the total amount, and EF of traffic is the least one. The EF of waste discard is approximately 16 times bigger than own campus' area. However, an average of 0.5 tons of waste foods has been producing every day. To make impacts reduction, attracting attentions to UOK's consumption pattern regarding saving food strategies could reduce the negative impacts on the environment imposed by the food-based activities. Staying focused on the waste calculation; it became clear that just small part of the waste materials has been recycled. In fact, a meaningful reduction of the waste-based footprint could be made through a rough concentration among students and staffs on recycling waste materials. The EF related to the traffic showed the smallest level among all components during the calculation. According to growing increase of car use in urban areas, there is a fair chance that car-oriented campuses will be resulted in future, just similar to what has happened in the developed countries. Therefore, it is expected that the impacts of traffic tend to be consequently strengthened.

Compared to the other research's results, it can be found that the largest component of EF in all four campuses in UOK, Northeastern University, Colorado College and Redlands University was energy (Table 3). Although Northeastern University applies coal as a direct energy, others including UOK mostly use electricity (indirect energy) instead. Regarding electricity, EF in Colorado College was very large, accounting for 80%, while UOK, Northeastern University and Redlands University were 42.41%, 13.49% and 31.4% respectively. By looking at traffic, Redlands University placed first position at

32.46%. EF calculation for food also showed higher rate compared to the other components and institutions so that went up to about 20% of total EF.

Table3. Ecological footprint of UOK compared with other universities

Component	UOK		Colorado college		Redlands university		Northeastern university	
	EF(ha)	Total EF (%)	EF(ha)	Total EF (%)	EF(ha)	Total EF (%)	EF(ha)	Total EF (%)
Coal	-	-	-	-	-	-	13477.7	54.37
Electricity	2599.5	42.41	4463	80	724.7	31.4	3343.6	13.49
Nature gas	129.97	2.12	395	7	431.2	18.68	27.9	0.11
Food	1191.69	19.44	574.1	10	113.4	5	5405.7	21.81
Waste	1471.5	24	-	-	289.5	12.46	1422.9	5.74
Paper	627.01	10.23	-	-	-	-	490.5	1.98
Water	15.59	0.25	56.5	1	-	-	489.4	1.97
Traffic	2.85	0.05	78	1.4	749	32.46	19.3	0.08
Campus area	91.7	1.49	36	0.6	-	-	110	0.44
Total	6129.81	100	5602.6	100	2307.7	100	24786.9	100

5. Conclusion

Universities could be considered just like an urban neighbourhood or small city due to the scale, population, traffic and so forth. They contain a range of building types including offices, classrooms, hostels, laboratories, health care centres, sport fields and big halls. These all should be assessed permanently in terms of sustainability since they consume a considerable amount of paper, energy and water. This research aimed at pondering the sustainability situation at University of Kurdistan central campus using EF indicator. The results based on statistics obtained from data collected in 2013 displayed that EF level were 61298100 hectares per year, to which equals 0.61 ha per student a year. Like other organizations, universities have an important ecological imperfection, as it tends to occupy a surface of nearly 91.7 hectares. According to the results, emissions from two students would be absorbed by more than one hectare of average world forest. The largest part was the EF level for energy, accounting for 44.52% of the total EF, then, EF calculated for wastes, and EF of traffic can be finally the least. Comparing the result with other universities showed that the EF of UOKC is even larger than Colorado College and Redlands University and a bit less lower than Northeastern Uni-versity in U.S.

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Biography

Mohammad Hamed Abdi. Enthusiastic granted PhD researcher interested in sustainability-based strategies and methods in urban studies in general. He used to focus on different applied and scientific projects in which urban issues and sustainable ideas bridged strongly. Sustainable movement, Transit-oriented development, smart city, nature- based solutions and urban greenery are perfect example of this. In several collaborative works with his colleague, Hamed have already tried to expand the Ecological Footprint Assessment (EFA) index in urban studies of Iranian cities at such different places as museum, high school, university, urban neighborhood and subjects as urban transportation.

Shed Space

The edge of La Boca neighbourhood

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Synopsis

This research explores the scope of the architectural project to propose different forms of production. It investigates the potential of spatial experimentation to transform the essential structure and land division of the city, by triggering new economic relations that may lead to a different urban ecology.
The study departs from the understanding of the role of the factory in the city through global history in light of different economic trends, identifying a constant relation between forms of production, typology and urban impact. The historical analysis shows the close relationship and interdependence that exists between the building and the economic model, and opens the way for developing scenarios of architecture as a provoker, as a tool for generating new social organizations in the city. The research takes the city as a field for experimentation and architecture as the mean to conduct it.

Key words: Architecture, productivity, ecology, cooperativism, project.

1. Alternative regeneration

Changes in production models have left vacant or underused areas with redundant infrastructure and outdated typologies. Once part of the periphery of the city, former industrial areas were absorbed by urban growth but remain segregated within the city. This is the case of La Boca neighbourhood in Buenos Aires, sitting on the left bank of the Riachuelo river mouth. The area developed historically through the settlement of a mixture of industries and working-class housing.

Today, La Boca is characterised by cheap-land, abandoned buildings, low urban quality and social segregation. Market forces are pushing the redevelopment of these areas through real-estate speculation, with the lack of a broader urban or architectural purpose.

As an alternative to this, this research proposes a series of architectural projects along a study area (Fig.1), as the means to alter the traditional path of urban regeneration. Nurtured by local conditions of the built environment and social and political demands, the architectural project uses spatial experimentation to break the city's rules of organization and property delimitation, proving a tool to envision a different reality.

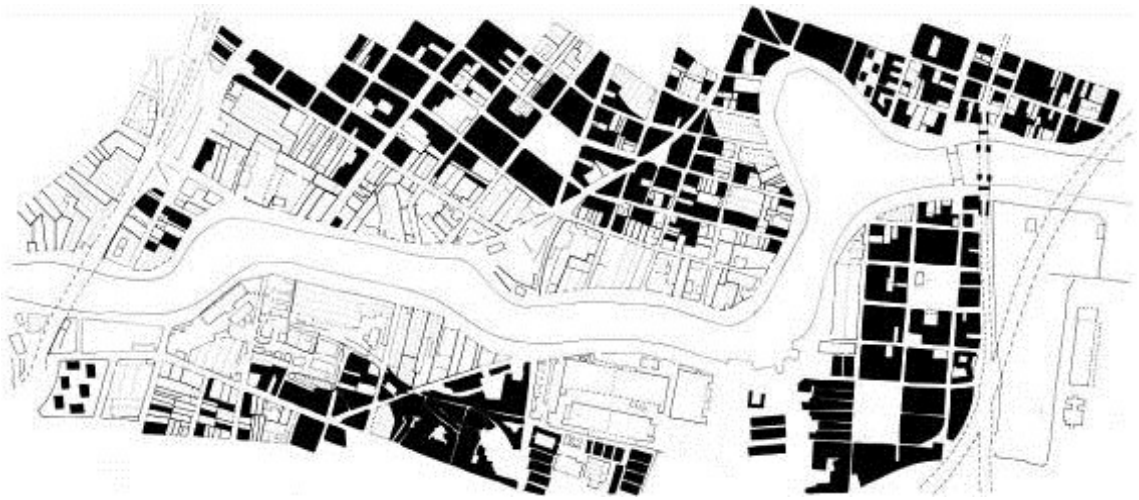


Figure 1.

2. A building for the model or a building as the model?

The evolution of production models and the foreseeable trends to the future bring along certain spatial implications, both in general terms and at a local scale. Historically, this study area was shaped by *The Modern Factory* model, but its later decay resulted in the deterioration of the former industrial space.

The factory, once the fundamental space of production in the city, was both an expression and a driver of the industrial society, and a paradigm of modernity. In this model, alienation and dominance are not limited to the inside of the building. Their effects surpass the limits of the factory and extend to general social organisation and life. "Rather than a building, the factory resembles a system of relations that extends far beyond the limits of any enclosure." [Marullo, 2013].

Nowadays, how do we reconsider these industrial ruins as new nodes for social organization? (Fig. 2)

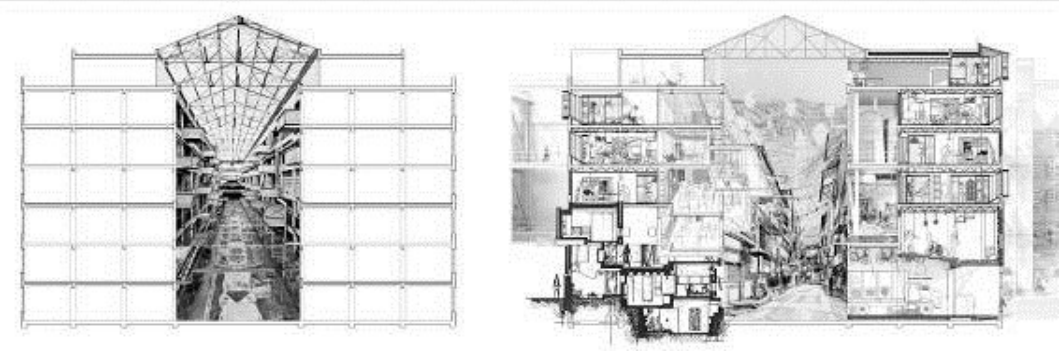


Figure 2.

With the *Knowledge-based Economy* model as a frame, current trends make it necessary to consider the space of production as part of the city, and to create mixed environments that favour innovation. In this context, collaboration and cooperativism are proposed in this research as fundamental ways to add social value to the new forms of production, and hence they become part of the ambition that guided the spatial exploration.

Cooperativism's main point of innovation is implying a different structure of organization. It can as well establish a different space in the city, if we consider cooperatives as a different form of association that is neither private nor public, but lies in between. Cooperativism presents an opportunity not only in terms of management but also on the culture of collaboration and solidarity that it nurtures, and on its potential to participate in the creation of a new common space in the city.

In his book Together, Richard Sennett presents co-operation as a skill that can be learned with time. He exemplifies becoming skilled in the world of craftsmanship, by working with others to achieve things that you cannot do by yourself (Fig.3). Once the skill is built-up, the experience of cooperation in the material and practical work can be translated to fraternal action when dealing with one another. Therefore, working experience and social values are very much related, and rethinking the former can trigger a bigger social transformation.

Figure 3.

Stavros Stavrides translates the question to the spatial dimension by rethinking what kind of space the *commoning practices* produce. “Commoning practices, thus, do not simply produce or distribute goods but essentially create new forms of social life, forms of life-in-common.” [Stavrides, 2016]. *Common space* is envisioned as a process, not as an enclosed shared space. That relates commoning to processes of opening, and conceives common spaces as thresholds that separate and connect at the same time.

While we can see that economic trends have conditioned architecture thinking, they do not determine its spatial qualities. This project seeks to invert the equation and put architecture are the forefront of the process of developing a culture of cooperativism and a resistance to speculative trends.

3. Architecture as laboratorial resistance

Having the intellectual agenda in mind, the challenge of the architectural projects proposed for this urban area is to create a third category of space with the power to alter the structure of the grid and to cluster components that belong to different blocks, which can offer new spaces of association and accelerate transformation.

The approach is based on the reutilisation, qualification and diversification of the industrial space by **shifts in the predominant typologies**. These shifts exploit the potential of design to transform the purely logistic and functional character of the typologies of the yards and sheds (former factories) into a performative character that allows more diversified and civic spaces. The integration of industries with residential uses is as well essential to keep the quality and identity of the neighbourhood. The focus is placed on developing opportunities to rethink the common space in the city and leverage interfaces to create new spaces of association and collaboration.

Clustering, as defined here, means assembling project components into groups that are to integrate to the urban grid and at the same time differentiate from it (Fig.4). The **components** are the **yard**, the **big shed** (Fig.5), the **small sheds**, the **studios** (Fig.6) and the **new housing buildings** (Fig.7). The focus is placed on the typological exploration of the design, in order to foster its replication across the area following an open, not fixed composition of the cluster. New spaces of association are conceived as organizers, being the key ones the shared yard, servant spaces inside the big shed and the thickened party wall between buildings.

The architectural project becomes then an essential tool to test new ecologies and to envision their potential as catalysts of urban transformation across the entire neighbourhood.

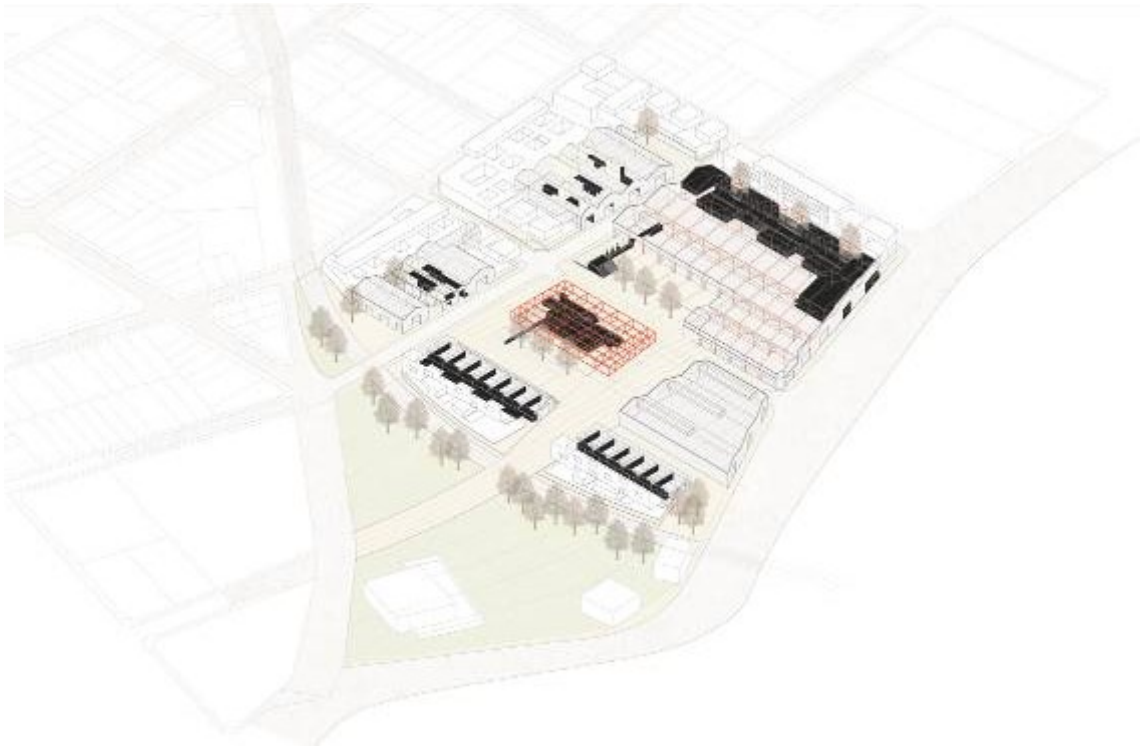
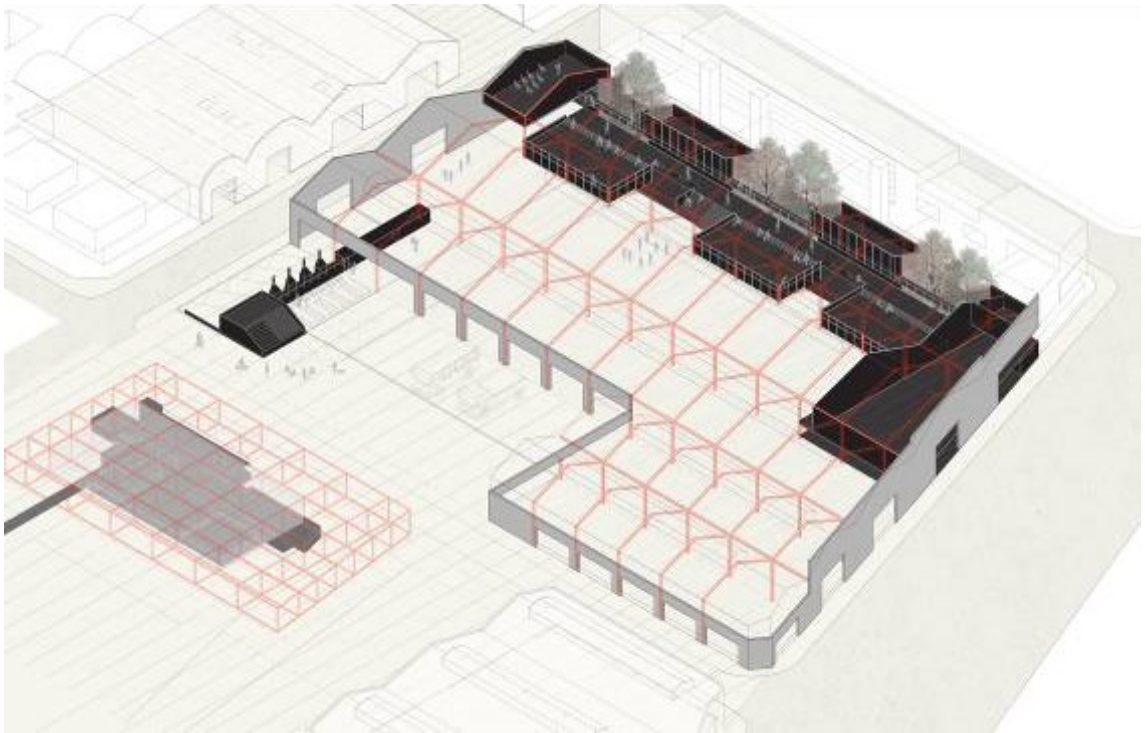


Figure 4.



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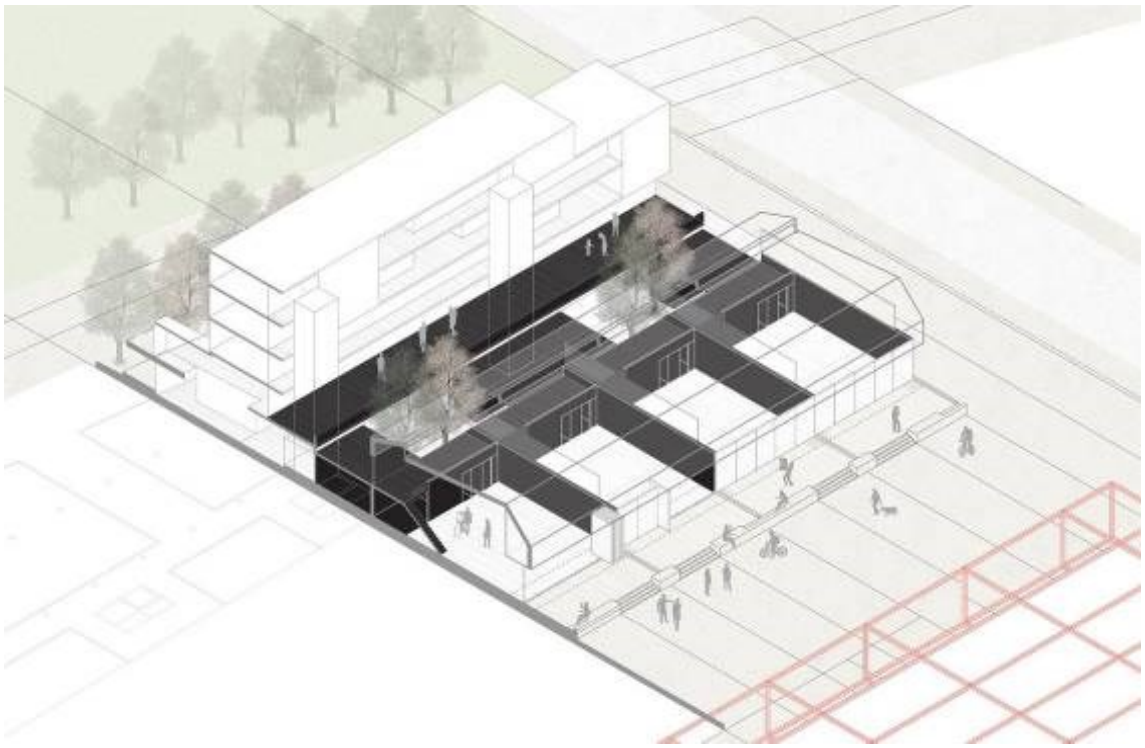

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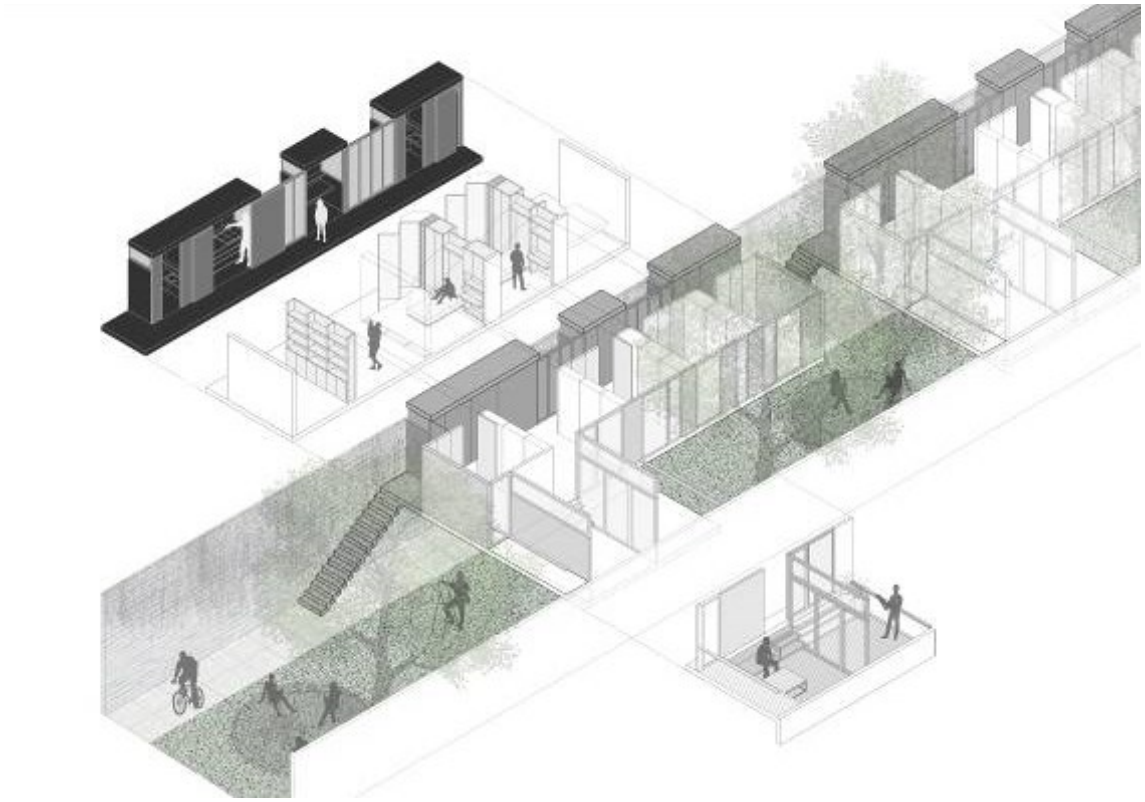

Figure 7.

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Biography

Paula Imperatore. Paula is a graduate in Architecture from the University of Buenos Aires and an MArch in Housing & Urbanism from the Architectural Association. She has worked as an Architect for many years in Argentina in different practices and has co-founded LUPA.ARQ. During her years in practice, she also kept an intensive academic work. She was Teaching Assistant in the School of Ar-chitecture of the University of Buenos Aires (UBA) and of the University of San Martin (UNSAM), both in Argentina. She also had a position as assistant researcher for two years in Projective Genealogy research group at the UBA. She moved to London to continue her studies in the Architectural Association and expand her knowledge in the field of urbanism. She now works in Sheppard Robson in London and continues her research independently.

Latent resources. The morpho-energy of the city

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Synopsis

The European Union has set itself the goal of reducing energy consumption by 27% in 2030 compared to 2013. With regard to the urban dimension, in order to reach this goal we need: on one hand to contain urban sprawl and on the other hand to optimize the performance of urban forms. The French state launched from 2011 to 2016 three cycles of the two-year research program Ignis mutat res Penser *l' architecture, la ville et le paysage au prisme de l'énergie* to explore the relationship between energy systems and the environment. In the frame work of the Ignis Mutat Res programme, through the research Mores Mutant ("2013-2015") a multidisciplinary team questioned the constructive and design practices of architects and planners to understand if, and to what extent, the project actions on the building could help activate an energy transition process. The starting point of our work has been to decline the morphological typology of the city in relation to the contemporary topics on the energy transition: the urban metabolism, the energy saving, the energy stockage. The main questions posed by the research were: How does energy innovation manifest itself in the historical city? What is the latent energy potential of the existing urban morphologies? How can the morpho-typological systems transform themselves from energy consumers into energy-producing devices and accumulators? The Ignis mutat res programme explicitly asked to work, in the schools of architecture. The project experimentation, organized at the ENSA Paris La Villette with the Master 2 students, allowed the reformulation of the research topic, the opportunities to experiment new methodological approaches to the topic. Within the workshop of architecture students, it is considered essential to reason on the urban transects in order to develop the reflection on the relationship between urban morphology and the energy transition process. Seven urban sections/ « transect » have been the objective of our work, focusing on the relationship between urban fabric and the context, through three key topics: interface, connections and temporality.

Key words: Synergy, transect, energy.

1. Introduction

The recent Brussels agreement of 24 October 2014 on the reduction of at least 40% of greenhouse gas emissions will be an accelerator of decisions and processes in order to achieve this goal at least in 20 years. With regard to the urban dimension, in order to reach this goal we need: on one hand to contain urban sprawl and on the other hand to optimize the performance of urban forms. The goal is ambitious, and it is now clear that we must also take action on the historic city. How can we intervene while taking into account the constraints on safeguarding heritage and new energy directives? The need to interpret the city not only as a consumer but also as a producer of energy is now a question increasingly acquired by researchers and different political and technical actors. Now the goal is to provide tools to ensure that governance strategy in terms of energy savings is possible, recognizable and feasible. As Sabine Barles argues: *Une première piste de réflexion consiste à ne plus considérer les villes comme des parasites insoutenables, mais comme des gisements de ressources énergétiques et matérielles valorisables, et à mesurer la contribution d'une telle valorisation à la dématérialisation des sociétés* (A first reflection consists of considering cities no longer as unsustainable parasites, but as deposits of energy and material resources that can be valorized, and in measuring the contribution of such an enhancement)[1] .

The European Union has set itself the goal of reducing energy consumption by 27% in 2030 compared to 2013. Consequently, France has set itself the twofold objective: the 40% reduction in GES and the halving of energy consumptions by 2050. The French state launched from 2011 to 2016 three cycles of the two-year research program Ignis mutat res. *Penser l' architecture, la ville et le paysage au prisme de l'énergie*. The ambition of this program is to explore the relationship between energy systems and the environment through the funding of research on the energy quality of buildings, cities and landscapes. The main objective of the program is to stimulate awareness on the topic of energy considered in a wide way with all its different economic, political, anthropological and social implications. Ignis Mutat Res - reads in the various calls - opens to possible horizons of an "architecture of energy". The interministerial and interdisciplinary nature of this action responds to the objective of building transversal visions and crossings between different theoretical and technical knowledge (*savoirs et des savoir-faire*) to achieve the qualitative transformation of the architectural, urban and landscape dimension.

2. The Research Mores Mutant

In the frame work of the Ignis Mutat Res programme, through the research Mores Mutant ("2013-2015") a multidisciplinary team[2] questioned the constructive and design practices of architects and planners to understand if, and to what extent, the project actions on the building could help activate an

[1] cfr. S. Barles, Les villes : parasites ou gisements de ressources?, publié dans laviedesidees.fr, le 25 mai 2010

[2] Mores Mutant. Mobilité et Réhabilitation : scénarios Mutant.
Research coordination : N.Trasi ("LACA Lab", Roma Sapienza); Research coordination French team : A.Tufano ("Gerphau Lab", ENSA La Villette). French team: O. Fatigato, S. Moreau, M. Salerno. Italian team: L. Calcagnini, R.Sinopoli, V. Fabietti, M. Manigrasso, E. Habib, E. Carnielo.

energy transition process. Numerous researches show that buildings and urban forms strongly influence energy consumption; but the measures and devices that should be implemented to reduce this phenomenon often overlook some important issues: the sectorial nature of the transformative actions and the devices implemented, and the lack of awareness and knowledge of the users regarding the topic of energy saving and transition.

The starting point of the Mores Mutant research is that energy is a complex phenomenon, at the same time an "element of nature" (Odum 1971) and a "social object" (Missemer 2004), and that in this sense the city can be considered as a "Laboratory of energetic metamorphosis ".

The interdisciplinary research group, composed of architects, urban planners, thermal engineers, philosophers, anthropologists and informatics, has worked crosswise on two historical districts of the city of Rome and Paris, respectively, to interrogate the latent energy of urban morphologies and social behavior. The considerable disciplinary diversity has been fundamental since the beginning to define the problematic framework capable of making visible and legible results. The starting point of our work has been to decline the morphological typology of the city in relation to the contemporary topics on the energy transition: the urban metabolism[3], the energy saving, the energy stockage. The aim of the research is the existence of a relationship between the morpho-typological aspects, the behaviors aspects and urban "flows" in general; respect to which the architectural project can play a greater role in the construction of the sustainable city, on the condition that it is conceived as an "urban transformation device". The main questions posed by the research were: How does energy innovation manifest itself in the historical city? What is the latent energy potential of the existing urban morphologies? How can the morpho-typological systems transform themselves from energy consumers into energy-producing devices and accumulators, starting from their specific characters? How to optimize and utilize this potential through the realization of minimum interventions?

3. Synergies along the urban transects[4]

The Ignis mutat res programme explicitly asked to work, in the schools of architecture, on the above mentioned research topics in order to raise awareness among students on the topic of energy transition through project opportunities. In the case of our research, the project experimentation, organized at the ENSA Paris La Villette with the Master 2 students, allowed the reformulation of the research topic, and also of some of its objectives and products, and were the opportunities to experiment new methodological approaches to the topic.

Within the workshop,Transition énergétique et politiques stratégiques dans les villes existantes: nouveaux scénarios énergétiques, it is considered essential to reason on the urban transects in order to develop the reflection on

[3] cfr. S. Barles, Le Métabolisme urbain et la question énergétique, Les Annales de la recherche urbaine n. 92, 2002
[4] Cfr. Nicolas Tixier. Le transect urbain. Pour une écriture corrélée des ambiances et de l'environnement, in Barles S. ; Blanc N., Écologies urbaines. Sur le terrain, Economica-Anthropos ; PIR Ville et Environnement, pp. 130-148, 2016

the relationship between urban morphology and the energy transition process. Seven urban sections/ « transect » have been the objective of our work, focusing on the relationship between urban fabric and the context, through three key topics: interface, connections and temporality. The aim was to verify, through the construction of some project scenarios, the latent "energy potential" and/or the deposit of energy existing in the seven urban sections identified as case studies for design experiments.

The building has been considered as an urban interface and the imagined transformations were all concentrated on the relations of the buildings with the outside and therefore towards the sky (the roof), towards the street (the façade and its coating) towards the ground. The open spaces, the different voids between the buildings in the sequence of the urban sections have been re-considered as deposit of latent energy to be re-thought and strengthened in their possibility of becoming "diffusion channels" of the energy flows. The work done, of reading and design, it is more precisely focused on collective, intermediate, in-between spaces, which could be the object of more radical interventions. It has been hypothesized that an exchange of energy in the form of heat exchange can be activated throughout the day (temporality) between different buildings in relation to their different functional uses.

The work on the urban sections allowed us to experiment the possibilities of influencing significantly the energy balance through synergy actions whose impact on the overall budget along the section is visibly higher than the simple sum of the separate actions.

4. Retroactive projects to rethink the urban system of energy

Through the project experiments on urban transects it has become evident how the reduction of energy consumption, in the city and in particular in the historical ones, can be realized through the optimization of the existing urban morphologies and their specificities. The need arises therefore to think of the existing city *as reservoirs de ressources énergétiques et matérielles valorisables*[5] to be reinvested, and to think the role of the architect and urban planner as an activator of innovative project practices, based on new working methods. This implies a change in the way of thinking about the project, in an interleague way, with attention to the inter-relation of the interventions rather than to the technological and environmental efficiency of the individual interventions.

The research, certainly partial and still incomplete, gives back an attempt to reason in terms of "design system" that images a redevelopment in terms of energy consumption through the intersection of different scales, starting from the specific characters of the existing, rethinking possible relations between urban dimension and energy.

Energy systems, the result of integrated actions on buildings and open spaces, can contribute to rebalancing energy consumption for urban areas. According to these new systems, it will be possible to imagine a new way of

[5] Cfr.. S. Barles, Les villes : parasites ou gisements de ressources ? dans laviedesidees.fr, le 25 mai 2010

identifying the urban parts (sectors) and the consequent regulatory instruments in terms of sustainable development (energy saving, energy transition).

The strategies on the city will be oriented to the recovery of all sources and energy deposits in the different sectors (parts) of the city. Energy performance will no longer be measured solely in relation to buildings but rather to entire sectors of the city, and will be a more complex but more inclusive and flexible measurement system.

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Biography

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From landscapes to lawscapes

Law, bodies and agencies of the border understood as an architectural apparatus

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Synopsis

Which is the role of Law in the production of contemporary border? Can we define Law as a non material vector or should we acknowledge is material dimension, embodied in certain architectures and agents as border show us? This paper proposes an approach to the contemporary border production logics through two case studies and two key concepts. The infamous Tarajal tragedy (Ceuta, 2014) and the riots in Aluche's CIE (Foreigner Detention Centre) during 2010. We will analyse these events through the lawscape and assemblage logics. This will unveil not only spatial production mechanisms that connect laws, bodies and agencies, but also the implicit spatial violence inherent to each production.

Key words: Lawscape, bodies, spatial violence, assemblage, border.

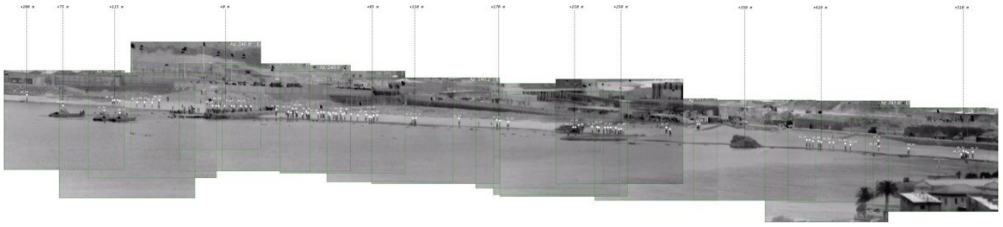

Figure 1. Analysis of Tarajal event through CCTV cameras digital reconstruction.

16th February 2014, Tarajal (Ceuta) border crossing point (Fig.1). More tan a hundred of bodies cross the imaginary line that divides Spain and Morocco through its virtual extension into the wáter. A police deployment with more tan fifty agents, CCTV cameras, shotguns, anti-riot material, gas cannisters, boats and vehicles renders a new space where the geopolitical line –or its architectural representation- has lost its relevance. It has been substituted by an ephemeral spatial construction. On that display, the movement of the bodies and their actions are ultimately the ones who build the contemporary border. A border that can be deterritorialized, that is topological, dynamic and with a great response capacity.

November 2010, at the interior of Aluche's CIE -Foreign Detention Center- (Madrid). A collective body of interns starts a riot setting fire the furniture of different bedrooms, deploying white blankets on the building façade to gain media relevance. Once again, enclosure architecture has been replaced and transformed through violent actions –in a spatial sense of the term- to propose new spatialities that go beyond the physical boundary defined by the walls of the building (Fig.2).

Figure 2. Blanket disposition on Aluche CIE façade. Madrid, 2010. Source: Arainfo.

Despite the distance that separates both events, some concepts are common to them. Concepts that should be included in architectural discussion to think, not only how the contemporary border is built, but which are the roles, agencies and spatial mechanisms of architectural matter and discourses engaged in it. To do so, the comparison between both study cases will illustrate, from a concrete analysis, broader concepts present on the contemporary space production observed through the lawscape and assemblage logic.

Which is the role of the law during these events? Rather, which architectures, agents or quasi-objects are embodying the Law? First of all, we should expand Law to go beyond its normative meaning. Because, as the first event have shown us, these administrative regulations became obsolete to render new spatial constructions full of norms and codes of different nature –the police protocols, exceptional procedures, hacking tactics developed by migrants…- (Fig.3) To do so, let's include in architectural discussion a key concept developed in the legal discipline, but with deep spatial implications: the lawscape. Andreas Philippopoulos-Mihalopoulos (2014) has developed this spatial model enounced through an assemblage formed by bodies, law and space entangled in a dynamic process of affects and effects. "The law of the lawscape is state law but also the law of space that brings bodies into encounter with other bodies, which in its origin or beginning might be state law but by the time it is incorporated, its origin as state law cedes priority to the emergence of a specifically situated law. The law in the lawscape is co-determined with the space between bodies; the space that is produced and is occupied by bodies; the movement of bodies; the desire of bodies; and the withdrawal of bodies for another law." A model that remind us the carefully tied body that Bernard Tschumi (1976) presented in one of his advertisement, followed by this statement: "Look at this way: the game of architecture is an intrincate play with rules that you may break or accept". Lawscape is precisely this active entanglement of flesh, ropes and knots that allows certain movements –or spatial practices- while impede –or punish- other ones. A "play", in Tschumi's words, that is mobilized by the affects and desires of the different bodies inside the assemblage.

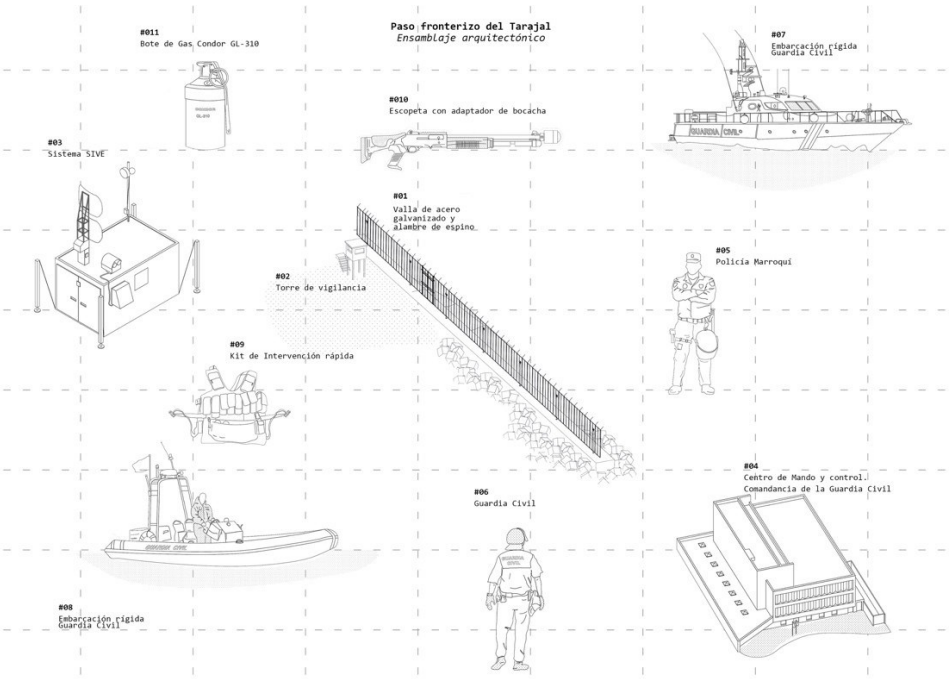

Figure 3. Tarajal assemblage diagram and its material components.

From this point of view, the previous slogan will have a greater relevance on its later Violence of Architecture essay (Tschumi, 1994) –and specifically in the update done by Léopold Lambert- where he stablishes an inherently violent relation between bodies and architecture, always mediated by the deviation of the norm grade. In both events, the deviation grade is so much that the vibrant architectural matter (Bennet, 2009) and also the implied bodies will store in their material flesh the consequences of the spatial moment of rupture. A rupture where, through certain spatial and material operations –minor architectural tactics (Stoner, 2012)- will render new unexpected spatial relations from an architectural design perspective. And, to reach that point will be required to contest direct and materially with the embodied laws in different architectures.

Once that the conceptual grounds are explaining, we can approach these conflict space, these multiples assemblages deployed over the territory, to detect the common parameters in both cases that confirm this methodological scope pertinence to analyse contemporary border logics. We propose a disciplinar shift from landscape –topographical- to lawscape –topological-. Only under this new scope we will be able to contextualize its dynamic character and the relevance between apparently non-architectural agents.

The compared forensic (Weizman, 2014) analysis of both cases will operate as a mechanism to extract broader conclusions to architectural thought, through the evidence of the real performance of law entangled with space. A law that is not exterior to matter, but embodied in agents and its performance, modulating its agency. Moreover, we will be able to render the spatial violence that is inherent to any architecture, but more and more explicit when a body

contest the actual laws – consciously or not- that configure any space. Let's focus on the contemporary border understood as an architectural assemblage to unveil the logics of contemporary space production.

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Biography

Antonio Giráldez López. Architect and urban planner specialised in the field of Theory and Design. He is currently carrying out his doctoral research in the Programme of Advanced Architectural Projects of the UPM, on the topic “Border-Apparatus: spatial construction from the migrant body”. This research that has been chosen to be part of the Spanish pavilion at the Venice Biennale (2018). Since the year 2013 he is the co-creator and co-editor of Bartletooth, a publishing platform related to architectural thought in the broad sense of the word, work for which he has received awards at Arquia Próxima (2016, 2018), the FAD Awards to Thought and Critique (2017), and the Future Architecture Platform (2018).

CCFF

Robotic Concrete Extrusion for Funicular Formworks

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Synopsis

Today architectural workflows for the development of complex geome-tries and their translation to physical objects rely on computational processes. The generation of form has become intrinsically tied to computer simulation in response to data sets and external information. Prior to the advent of these technologies, forms were generated and understood through analogue methodologies that depended on the behavior of the material in response to a set of physical conditions. The ambition of the research, 'Catenary Concrete Funicular Formwork' (CCFF), is to investigate hi/low tech possibilities for generating form and space at the interstices of the digital and the handmade. The study leverages the use of physical catenary and funicular modeling in conjunction with the precision of robotic concrete extrusion for the development of pattern-based thin concrete shells.

Key words: Architecture, concrete, patterns, robotics, 3D printing.

1. Introduction

"It may be noted that although reinforced concrete has been used for over a hundred years and with increasing interest during the last decades, few of its properties and potentials have been fully exploited so far. Apart from the unconquerable inertia of our own minds, which do not seem to be able to adopt freely any new ideas, the main cause of this delay is a trivial technicality: the need to prepare wooden forms."

With these words, Pier Luigi Nervi question material practices with respect to the use of concrete. It is a statement of provocation for disrupting standard practice in favor of alternative methods for working with concrete. Like Nervi, other architects and engineers during this time were also attempting to push the boundaries of the material by reconceiving this a priori heavy and brutal material as something light, delicate and thin. Within this vein of thought, today's architects and designers are once again being hindered by the same 'trivial technicalities' that Nervi referred to. In an attempt to explore new possibilities for material practice, the research CCFF attempts to break away from our preconceived notions of how to work with concrete.

2.1. Historical Context

Reflecting on modern concrete, reveals that, the material as we know it today, has a very short history, with stone construction being its predecessor. As a point of departure, Catenary Concrete Funicular Formwork focused on two historical periods in architecture.

2.1.1. From Romanesque to Gothic

Stone in compression seems like a good material to build mountains but not buildings, with the exception of those in the form of caves. Indeed, typical Romanesque stone structures were dark and cavernous like caves in the mountain, where mass was needed in order to allow structural forces to be dispersed as much as possible.

With the rise of the Gothic structural systems, this began to change. Forces were engineered through slender columns, buttresses and vaults, resulting in a minimal structure, that provided incredibly elevated light filled spatial experiences. Not only did this period change our methods for construction, but, culturally, it shifted our perception of the material itself. This change allowed a highly intricate arrangement of stone patterns that communicated impermanence, lightness and fragility – all things that embody spirituality and a higher order. (Fig. 1).

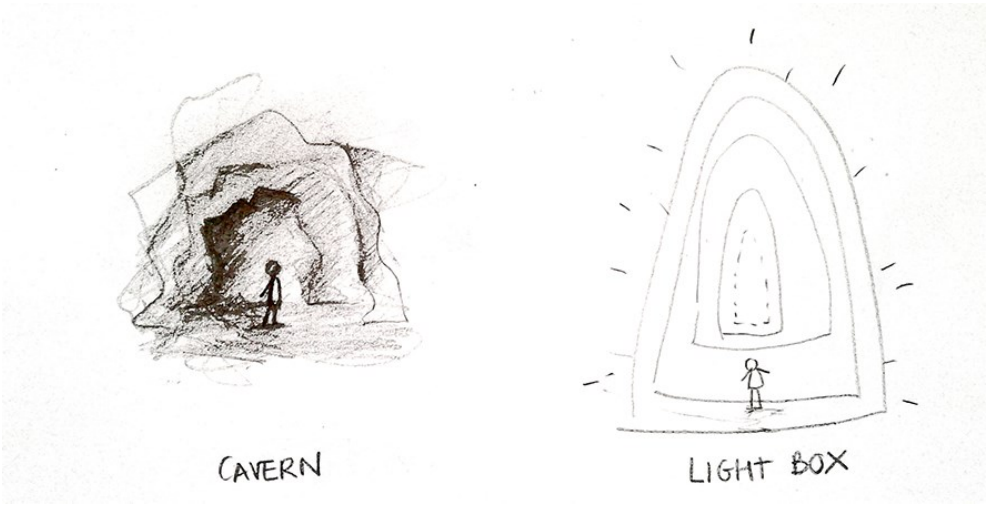

Figure 1.

2.1.2. Isler, Nevi and Fisac

From this point forward, and moving into the XX century, architects inherit modern concrete as the new stone making, searching for methods to creat even lighter architectures by reinventing this heavy material through a refined understanding of structural principles and new technologies.

During the sixties, one of the new approaches to form-finding with a heavy material like concrete can be seen in the work of Swiss engineer Heinz Isler. His experiments to identify ideal lighter and thinner forms for concrete shells produced nearly an infinite spectrum of possibilities based on the simple principles of catenaries. In the same period, the work of Pier Luigi Nervi was based on the limitations of the capacity of concrete and its improvement through the introduction of formal folds, curvatures, corrugations and patterns in a surface. Alternatively, the work of the Spanish architect Miguel Fisac explored the formal expressiveness of this material by exposing concretes plasticity. Using very rudimentary flexible formworks, Fisac revealed the true nature of concrete, which he believed to be the materials genetic imprint. (Fig. 2).

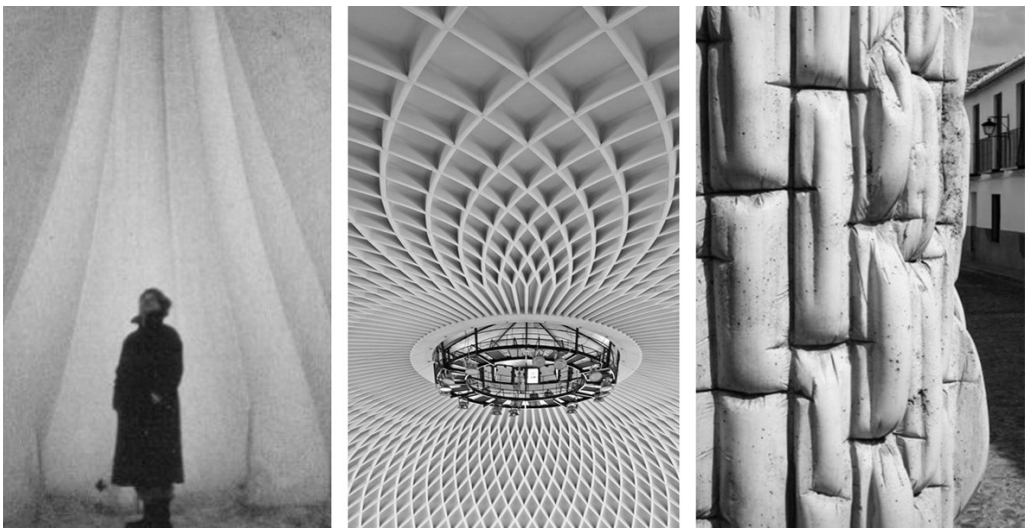

Figure 2.

3.1. Catenary Concrete Funicular Formwork

Borrowing these craft form-finding methods, CCFF adopts the one that Isler most commonly used to find the ideal shape of his thin shell concrete structures: the 'Hanging cloth reversed'. For this method, Isler would apply a thin coat of plaster to the cloth and allow it to deform under its own weight. Once this composite hardened, it could be reversed to produce a self-supporting structural shape. Learning from this process, the objective of the research is to create malleable, lightweight shells, but rather than creating them thin and continuous as Isler's, the investigation focused on making them permeable and plastic.

3.1.1. Neo-gothic robotics through making

The process required a high level of control over how the concrete was deposited onto a flat cloth that would later be hung. A precision that was more akin to the gothic artisans' ability to "draw" thin lines with stone for creating an intricate lattice like structural system. Therefore, the research leveraged a hybrid method where the physical catenary and funicular modeling was combined with the field of robotics and cement extrusion for the development of pattern-based thin shells.

The research began by carefully exploring cement mixes in conjunction with tool development. By manually depositing cement through pastry bags, allowed for an initial understanding of the material but the process was limited in consistency and accuracy. This difficulty in controlling the flow of the concrete and pattern led to an exploration of the use of robotics and the 3D printing technique known as Contour Crafting. This stage of the research leveraged readily available rapid prototyping technology for the development of an extrusion tool that can be fitted to the end of a six-axis robotic arm. (Fig. 3) Through the integration of robotic extrusion, the depositing process was precisely controlled, allowing for intricate interlacing and repetition of patterns without the need for a traditional formwork.

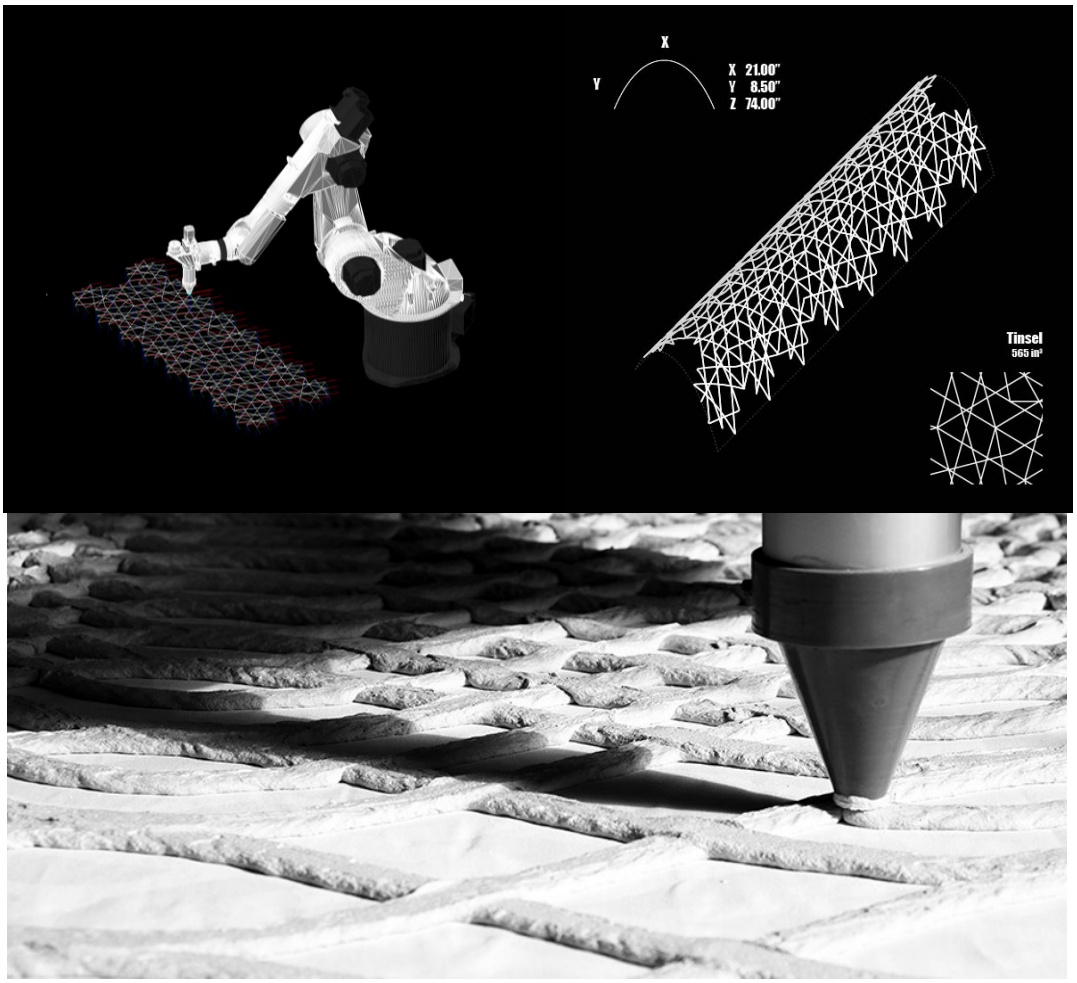

Figure 3.

4. Conclusions

The potentials of the plasticity of the research leverages the use of physical catenary and funicular modeling, the handmade, in conjunction with the precision of robotic cement extrusion, the digital. While fabric formed architecture and concrete has been around for some time, the application of material computation to achieve complex patterns and geometries using low-tech construction processes is yet to be explored.

The result of the research (Fig. 4) is a sampling of the attempt to unify the delicacy of material computation and artistic imperfection of hybrid formed structural screens through a material typically thought to be rough and heavy. The combination of fabric formwork and cement extruding is not a replacement for conventional ways of casting but questions the material process traditionally associated with it. At the same time it offers new possibilities in the use of contour crafting for the precise production of architectural objects that question the possibilities of scale, permeability, weightlessness that may be achieved with a material like concrete.

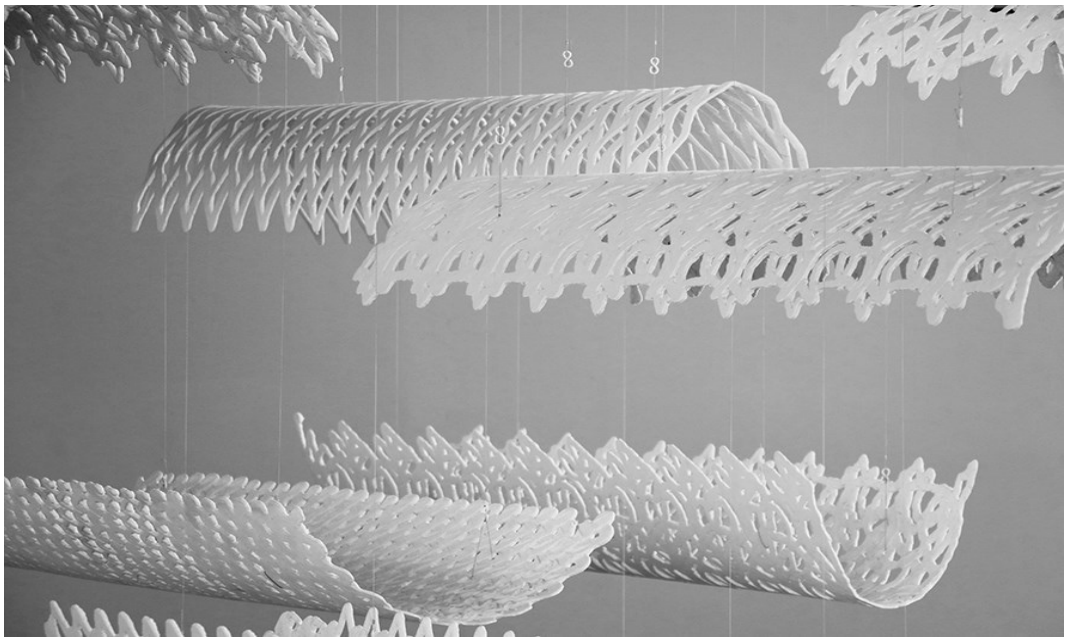

Figure 4.

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Biography

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Jonathan Rule. Assistant Professor of Practice at the University of Michigan, Taubman College of Architecture and Urban Planning. His research looks to recalibrate past methods of design, making and construction through new possibilities provided by advancements in fabrication technologies. Rule received a Bachelor of Science in Architecture from the State University of New York at Buffalo, a Master in Architecture from the Harvard Graduate School of Design and an homologación de titulo from the Escuela Técnica Superior de Arquitectura de Madrid.

The Collaborative City

How to develop urban project considering expanded and inedited fields?

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Synopsis

This paper draws a link between citizens' initiative, architectural practice and architectural education. The core of this research focuses on "bottom-up" design processes, which may illustrate the paradigm of an inedited "collaborative city" characterized by a wider stakeholders' involvement.
The first part defines the theoretical conditions for a new paradigm, "a new system of values, that illustrate a new representation of the world, in a new coherent system" by analysing a corpus of recent completions where stakeholders' status, type of financing and duration reverse the traditional "top-down" process of designing projects. But those examples don't identify the architect as the central character of this inedited process, that's why the second part of this "retroactive research" paper develops personal project where the architect gathers various disciplines within an integrative process of design, where the collaborative economy acts as a generator to face the velocity of urban degeneration of two suburban cities of Paris. The third part sheds light on architectural education and pedagogical experimentations, which prepare future architects to play a central role in a collaborative process where methodologies of design and extra-architectural alliances look more relevant than preconceived aesthetical and theoretical positions.
Finally, the paper concludes with a categorization of skills taken from our previous examples, and argues that if architects want to be play a major role in urban design, architecture academies should immediately integrate those competences to their curriculum.

Key words: Bottom-up initiative, collaborative economy, architectural education, French suburbs.

1. Introduction

Traditional design process of urbanization looks henceforth behind us. The usual top-down decision processes seem to have been replaced by more integrative ones, which gather an increasing amount of stakeholders around the table. Behind those observations, the knowledge taught in academies of architecture remains immediately in question.

The traditional “triumvirate” of client, architect and companies is now enlarged to non-professional (i.e. users and associative), or extra-professional (such as specialists of inedited fields), to create a bottom-up process of urban renewal, making more evident the “heterogeneous engineering” (Boudon) of the architectural design. From this point forward, new notions appear in the vocabulary of the design process: citizens consultation and negotiations for the “process” itself, space sharing and crowdfunding for “self-financing”, reuse and recycling for the “building”. Is this ongoing phenomenon just a short-term tendency, or is it drastically changing our habits in terms of design to finally erect more integrative process and more hospitable cities. This paper wants to explore this hypothesis by borrowing three different points of view.

Firstly, as an observer and scholar, we will exhume specific and recent urban “bottom-up” completions to interrogate their starting-point, their financing and their duration. Can we consider these selected initiatives, which illustrate “architecture without architects”, as evidence of a new paradigm of the city?

Secondly, as a “research by design” practitioner, we will present a methodology we submitted to re-develop a 150 ha territory located in the vulnerable suburban cities of Grigny and Ris-Orangis, located 30km from Paris, France. By introducing an unedited field (the collaborative economy) as generator of the project, we defend more integrative processes where architects act as instigators for a more ethical urban renewal.

Thirdly, as a teacher, we will focus on innovative pedagogies which illustrate how the paradigm of the collaborative city can enter into the Architectural Education, and describe the main mechanisms employed by institutions to help the students to face the uncertain but exciting evolution of the role of the architects.

Finally, this paper concludes on the competences required by the “collaborative city” which definitively has to enter into academicals curriculum if future architects want to play a crucial and central role in urban design.

2. Is the “collaborative city” a new paradigm for developing the city?

According to various meanings, “paradigm” is defined by several criteria: it is based on a new system of values that illustrate a new representation of the world, to shape a new coherent system. On the other hand, the expression “collaborative city” here represents all “bottom-up” initiatives launched by alternative process of urbanization, in opposition to the traditional and historical top-down process within which public institutions act as drivers. The following cases constitute a part of a wider corpus which may illustrate this changing of paradigm, whose analysis focuses on major components of a possible new and coherent representation of the city: the status of their instigator, their process of financing and their duration.

2.1. "La Ferme du Bonheur", Nanterre, France: an unexpected cultural equipment

This first example will detail how a personal initiative, launched in 1990' by a charismatic artist, become the starting point of a still running process of transformation of a disaffected building in a suburban city of Paris. The relative ambitious project started by defining cultural activities (theatre, exhibitions), which progressively found its public and users, becoming a place of reference for experimental artistic production. By progressively expanding its activities, The Ferme du Bonheur (*English translation: The Farm of Happiness*) hosts now a laboratory for urban agriculture, develops alternatives to the traditional economy and fosters educational connections with the University of Paris Agro Tech, which finally tend to promote a resilient occupancy of undervalued vacant spaces within the city.

2.2. "La Louve", Paris, France: new amenities and crowdfunding

"*We were unhappy about the current food amenities, so we decided to create our own store*" said the creator of the supermarket "*La Louve*", opened in 2017 in the XVIIIth district of Paris. Whereas the major retail companies promote generic products disconnected from the social conditions of the neighbourhood where they are located, a crowdfunding was launched to create the first "cooperative supermarket" of Paris. Lower price are promoted for all members of the association, who then take part to all logistic and administrative duties. Giving time to the community makes affordable prices. This example shows how a well-organized group playing a social role can reshape a territory.

2.3. "Les Grands Voisins", Paris, France: temporary urbanism

The third example sheds light of the notion of temporary urbanism. Les "Grands Voisins" is an experience of associative occupancy of the former hospital "Saint-Vincent-de-Paul", located in the central XIVth district of Paris, which integrates its own end from the beginning of the project. Diverse occupancies scheduled by the Association "Plateau Urbain" will last until June 2019: co-working spaces, bars, bakery, restaurants, second-hand shops, emergency housings, take place in recycled buildings, thanks to light and ephemeral spatial interventions. Such a process responds to real citizens needs and introduces a crucial reflexivity between the space and its uses, while bringing urban life in a place waiting for its final destination.

2.4. First conclusion: the collaborative process as a realistic alternative to top-down process

These collaborative processes, usually embraced under the expression "bottom-up initiative" may be considered as a change of paradigm since they illustrate an explorative, recurrent and successful mutation of the traditional design process: new alliances (La Ferme du Bonheur), new types of financing (La Louve), new vision of the duration (Les Grands Voisins). Because they may also constitute a strong alternative to heavy and slow transformation of the city (today unable to quickly react to the velocity of the needs), they naturally interrogate the architectural practice.

3. The "New Prosperities" project: a collaborative practice to shape a road-map of urban renewal by introducing the collaborative economy as generator

The 14th session of the EUROPAN competition has been launched in 2017 under the theme "Productive Cities". The main hypothesis of the organizers was to consider cities as a favourable territory to develop new processes of planning, and the word "productive" is wide enough to interrogate both the territory and the economical context which gives birth to the projects. We took part to this competition for the site of Ris-Orangis – Grigny (France), two neighbouring cities characterized by their social fragility. Consequently, this part of the paper focuses on a "research by design" three-steps methodology to introduce, from the beginning of a process of design, economic fields architects traditionally pained to consider as crucial.

3.1. Step 1: The Capitalization of datas to define an accurate strategy

The first step initiates a collective work with various stakeholders to gain a better economic and social vision of the territories. Successive workshops gather heterogeneous council of inhabitants, associative, politic and economic stakeholders which all have an experience of the site, in order to define priorities in terms of needs, times, stakes (transportation, food, jobs etc.). To animate those 4 workshops, architects call specific experts to manage with the heterogeneity of the needs and to launch a bottom-up project. Following topics are embraced:

- Create and integrate a citizen council;
- Define economic growth;
- Define property and sharing;
- Connect the territory to the Metropolis of Grand-Paris.

3.2. Step 2: Site's mutation. How to achieve the strategy?

The second step of the New Prosperities road-map organizes all the collected "substance" according to the 4 sectors of the collaborative economy (Demailly, 2015) and refers to paradigmatic cities:

- Production, with a "Business to Consumer" strategy (reference: Seoul, South-Corea);
- Consumption: with cultivable area dedicated to affordable and wealthy food (reference: Detroit, USA);
- Education and culture: by involving public stakeholders (reference: Rio de Janeiro, Brazil);
- Crowdfunding: by implementing some clusters (reference: Roxbury, USA).

3.3. Step 3: Process of construction, at a metropolitan scale

As a final step, the "New Prosperities" road-map integrates the project within the global territory of the Metropolis of Grand Paris, by focusing on topics belonging to a wider-scale:

- Improving the Urban metabolism;
- Building recycling;
- Re-using;
- Short-processes.

3.4. Second conclusion: can architects be the instigator of the collaborative city?

This methodology of work shows how the starting point of a relevant urban project launched by architects and urbanists doesn't borrow any spatial of architectural references but focuses on an extra-architectural subject, the collaborative economy, to face urban and social degradation. This methodology actually underlines the competences of the architects, and their relative position within a design process, which finally interrogates their own architectural education.

4. How the "collaborative city" interacts with the architectural education?

Architectural education, whose "*purpose is not only to educate architects, but intellectuals holding ethic and moral conscience*" (Snozzi), is characterized by subjective and recurrent deep questioning. In the meantime, it is supported by teachers who can be scholars or practitioner, defending various or individual doctrines. Nevertheless, all architecture academies tends to mirror the evolution of the practices and help students to face the rising complexity of their coming professional carrier. This third part illustrates three pedagogical experiences borrowed to architectural education, related to the so-called notion of Live Projects, to respond to the constant changing of the profession of architects.

4.1. "Rural Studio", Alabama, USA: Make architects and architecture more accessible to people

The Rural Studio is somehow the most achieved educational experience, launched in 1993 in the Hale County (USA) as an undergraduate program from the Auburn University. The studio aims to help underserved population and become progressively a laboratory for all the matters of recycling, re-using, remaking, which can be considered, 25 years later, as a precursor of a new kind of practice which appears today as relevant.

4.2. "Lampedusa Workshop", Paris, France: Refugees crisis enters into the architectural education

This pedagogical workshop took place in 2016 within the Master of the Urban School of Sciences-Po, Paris. It gathered group of students and representatives of the City of Lampedusa (Italia), who are currently facing massive waves of refugees. Production of students consisted in a site analysis, detailed perspectives providing a better organisation of this strategic territory, and may prepare the students to be quickly reactive in producing solutions required by geopolitical crisis.

4.3. "It won't exist without inhabitants", Paris, France: Invite inhabitants within the architectural studio

The purpose of this master, which took place in the Architecture School of Paris-La-Villette (where we are teaching), from 2013 to 2017, was to train students to the dialogue with non-professional stakeholders, whose requests are not explicitly formulated. This example shows how new kind of skills can be taught, like the cooperation and the negotiation, which are currently unexplored within the traditional configuration of the architectural studio (Hoddé, 2013).

4.4. Third conclusion: pedagogy and social skills

Inedited pedagogical experiences borrowing real cases (a never affordable architecture, a refugee crisis, the disconnection to real people and real voices) are relevant examples of what an architectural education should be. Beyond this specific context of creation, they interrogate the skills and knowledge, which must now be taught within the studio, making the students more prepared to assume their social role within the society.

5. Final conclusion

Observing urban inedited experiences (part 1), detailing a specific methodology of practice (part 2) and analysing some spatial education tentatives (part 3) gave the opportunity to recenter bottom-up initiatives within a more universal critical process, and finally consider the collaborative process as an inedited path for designing the renewal of the city. Beyond those specific cases, these initiatives also interrogate the skills which are here embraced.

Various classifications of skills have been defined (Hoddé 2001, Salama 2015): theoretical, practical and social are the mains categories, but as far as the social ones are concerned, it sounds that the attached pedagogy is only at the beginning of its development. Neither the architecture academies nor the architects tend to consider them as crucial for urban projects, even if major architecture completions and visible pedagogical experiences clearly illustrate the contrary.

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Biography

Guillaume Baron. Architect d.p.l.g. (certified by the French government) who graduated from the Ecole Nationale d'Architecture Paris-Malaquais in 2006. He founded BARON arch., a studio of architectural and urban practices and theoretical research in Paris in 2012. The office extends its fields from residential renovations to urban renewal projects, integrating social awareness and collaborative process as leitmotiv. Both latest projects have been honoured by a special mention (Europan 13) and shortlisted (Europan 14).
Previously, Guillaume Baron worked for 3 years for the Japanese firm SANAA, run by Kazuyo Sejima and Ryue Nishizawa, winner of the 2010 Pritzker Prize. Since 2013, he has been teaching at the Ecole Nationale d'Architecture Paris-la-Villette, in the Department of Theory and Practice of Urban and Architectural Design.

Coherence and contradiction in Prefab Modular Aggregative Systems

Early experiences of organic growth based on the addition of prefab cells

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Synopsis

Technology has been a fundamental factor in understanding the great social changes that took place during the 20th century. The progress made in the implementation of industrial organizational processes led to a quick development of aeronautics, the automotive industry and, to a lesser extent, construction. The application of industrialization techniques to the collective dwelling generated new formal compositions and architectural theories. Occasionally, idea and construction have advanced together (coherence), developing buildings based on the aggregation of prefabricated three-dimensional cells. In other cases, some projects tried to replicate the proper forms of three-dimensional modular aggregation, without using the characteristic technology that generates these forms (contradiction).
This paper analyzes the relationship between the architectural concept (idea) and the technological system (construction) in post-war prefabricated housing buildings. Different compositional (shape) and structural (matter) models are identified, and the concept of “basic prefabricated module” and its variants are defined: geometric (modular frames), functional (housing unit) and / or constructive (cell or capsule).

Key words: Aggregative systems, Modular grids, Three-dimensional cells, Prefabrication, Collective housing.

1. Previous concepts

Despite being related, there are small traits that differentiate prefabrication and industrialization. "*Prefabrication*" is a generic term that indicates only that some of the elements used during the construction of a building (*on-site*) have been previously prepared in another location (*off-site*). On the other hand, "*industrialization*" is a much more precise and concrete concept, which implies the establishment of an organized, standardized, serial (repetitive) and usually mechanized process, to maintain continuity of production and guarantee high productivity. Indirectly, industrialization implies prefabrication (but not vice versa), and also implies an improvement in quality and a reduction in costs and time of execution.

2. First attempts

We can say that there has been prefabrication in building since very early times of humanity (carving stone blocks for the pyramids of Egypt, for example), but there has been no industrialization until 20th century (mass production of precast panels for the Soviet housing blocks, to give another example).

Industrialization in architecture started very late, and today still it has not finished its evolution if we compare it with other activities. Obviating specific cases and previous experiments, one of the key moments in the evolution of constructive technique occurs when, at the beginning of the 20th century, the structure acquires its own relevance and dissociates from the enclosure.

2.1. La "machine à habiter"

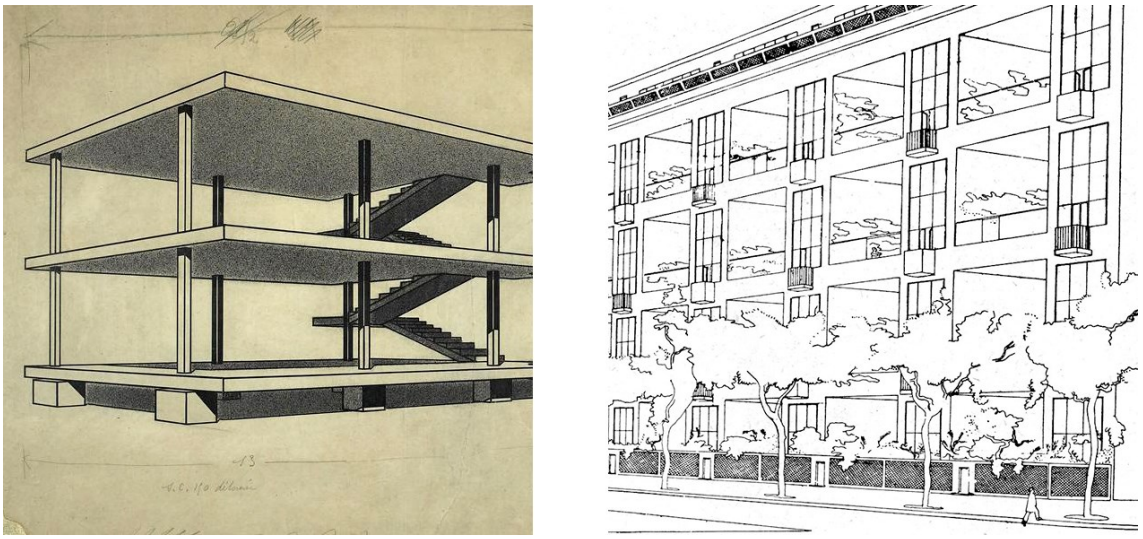

Figure 1. Dom-ino (1914) vs. Immeuble-villa (1922).

Le Corbusier, aware that the reconstruction of cities destroyed by wars had to be solved by mass-produced houses, presented 'Dom-Ino' in 1914 (fig. 1). In this novel structural scheme, which already shows his famous "Five points for a new architecture"[1], we can see some reinforced concrete elements that could be

[1] In 1927, Le Corbusier sent Alfred Roth (technical direction of the 2 dwelling in the Weissenhof Stuttgart) a manuscript with the "*Five points for a new architecture*". This manuscript is published in a promotional brochure of these two houses, called "*Zwei Wohnhäuser von Le Corbusier und Pierre Jeanneret*"

industrialized in order to achieve mass construction.

'Dom-Ino' houses were still proposals linked to single-family dwelling type. Years later, in 1922, Le Corbusier studied for the first time the three-dimensional grouping of this housing type and formulated his project 'Immeuble-villa'[2], a block in height formed by the superposition of two-floors isolated houses.

2.2. "Bouteille" et "Bouteiller"

The evolution of these aggregation models will culminate two decades later with the conceptual development of the 'Unités d'Habitation'. At first, Le Corbusier understands the Marseille apartments as prefabricated, autonomous and independent entities ("bottle"), which can be placed anywhere in a regular mega-structure ("bottlerack"), a reinforced concrete skeleton designed as a three-dimensional grid of pillars and beams (fig. 2).

In total, five 'Unités' were built: Marseilles (1947-52), Nantes (1953-55), Berlin (1957-58), Briey (1959-61) and Firminy (1964-66). None of these 'Unités' use prefabricated apartments [constructive module] as initially proposed[3]. However, in Marseille, each of the housing units (bottle) has its own independent metal structure [functional module] that rests on the main concrete beams and pillars modular grid (bottlerack) of the building [geometric module].

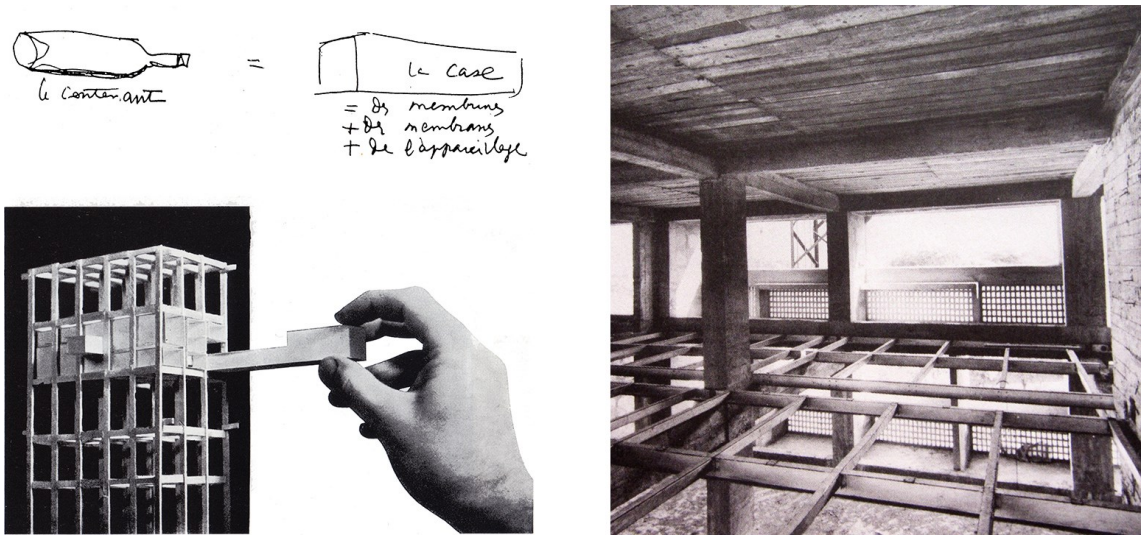

Figure 2. Unité d'Habitation, Marseille FR (1947-52): Idea vs. Construction.

3. Coherence

Mass reconstruction that took place after the devastation caused by WW II showed the need to introduce systems that would rationalize the construction process to reduce execution times and costs, thus optimizing the scarce resources.

[2] Le Corbusier built in 1925, on the occasion of the Exposition Internationale des Arts Décoratifs in Paris, one of the basic homes that are a part of the Immeuble-villa. This prototype was called 'Pavillon de l'Esprit Nouveau'.

[3] Aware of the impossibility of industrializing housing (mainly for economic and technical reasons), Le Corbusier writes: "*The bottles could, one day, be manufactured from scratch in the workshop, in decomposed elements, then mounted on the job (at the foot of the building) and, by means of efficient lifting, to be housed one by one in a frame*".

In the mid-50s, coinciding with the decline of ideas derived from the first CIAM (embodied in the "Athens Charter"[4]), discordant voices with the Modern Movement and the International Style began to rise. It was the moment for new proposals based on the modulation and standardization of construction components.

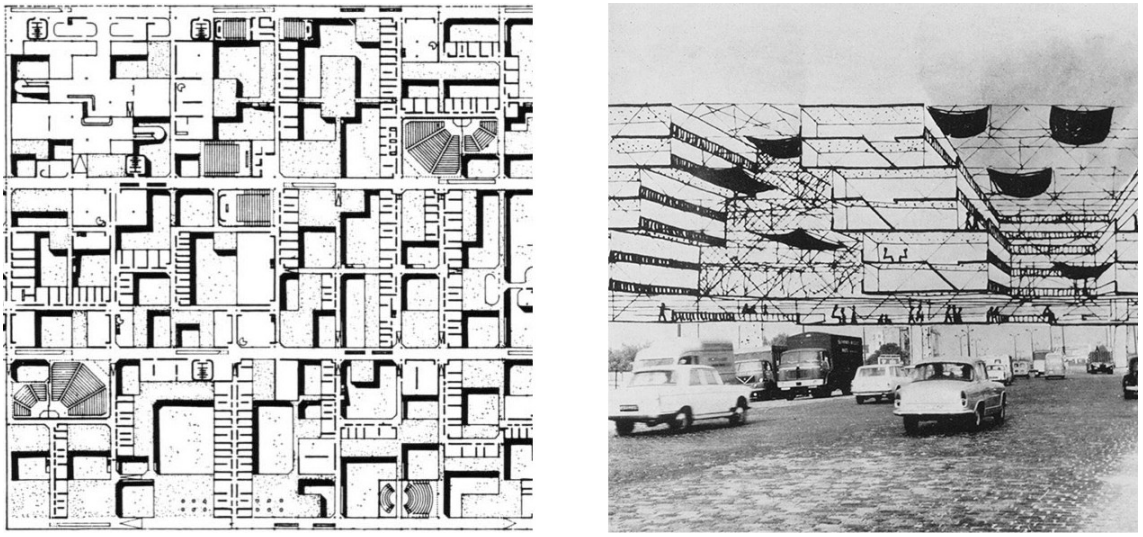

Figure 3. Freie Universität, Berlin DE, 1963 (Candilis, Josic, Woods) vs. Ville Spatiale, Paris FR, 1968 (Friedman).

On the one hand, new generations of architects grouped under the name of Team 10[5], began to work after the X CIAM of Dubrovnik 1956 for a new architecture based on mobility, flexibility and variability. The Smithsons were the creators of the concept 'mat-building'[6], a type of building whose compositional structure based on a strict modular net allows it to grow and transform over time (fig. 3). For the purposes of this paper, we will define as [geometrical module] each of the spaces delimited by this modular net.

It was also in that X CIAM when Yona Friedman presented the "Manifeste de l'architecture mobile". His project 'Ville Spatiale', a space-frame megastructure[7] for hanging volumes freely imagined by the user, was the starting point of influential movements such as Archigram and the Japanese Metabolists (fig. 3). Each of these three-dimensional prefabricated volumes configure a [*constructive module*]. If, in addition, each volume establishes a complete individual housing unit, then it will also be a [*functional module*].

3.1. Archigram: the capsule

Archigram emerged as a movement of reaction against the static and sterile London architectural landscape. With strong beliefs in the advances of technology, they relied on the advantages of mass-production: repetition and

[4] This manifesto, published by Sert and Corbusier in 1942, includes IV CIAM conclusions (1933)

[5] Among the most active members of this collective are the Greek G. Candilis, Dutch J. Bakema and A. Van Eyck, British A. and P. Smithson, Italian G. De Carlo and American S. Woods

[6] The article "*How to recognize and read mat building*", published in 1974 in the magazine Architectural Design, contained a collection of projects from different periods that would respond to the Smithsons' idea of this concept

[7] More than 20 years later, in 1976, Reyner Banham used this name as the title of his well-known book where he compiled numerous constructed examples and projects

standarization, but they also bet on the possibility of exchanging pieces depending on individual needs and preferences.

Warren Chalk was the first in using the concept "*capsule*". Inspired in the space capsules, the new prefabricated dwellings of his project 'Plug-in Capsule Homes' (1964) were attached ("plug-in") to a tower mega-structure (fig. 4). Two years earlier, Peter Cook had already worked in his 'Metal Cabin Housing', using the same idea. In all these projects, the capsule constitutes a [*functional and constructive module*] at the same time, and the final image (form) is not something sought after, but a direct consequence of the technology used.

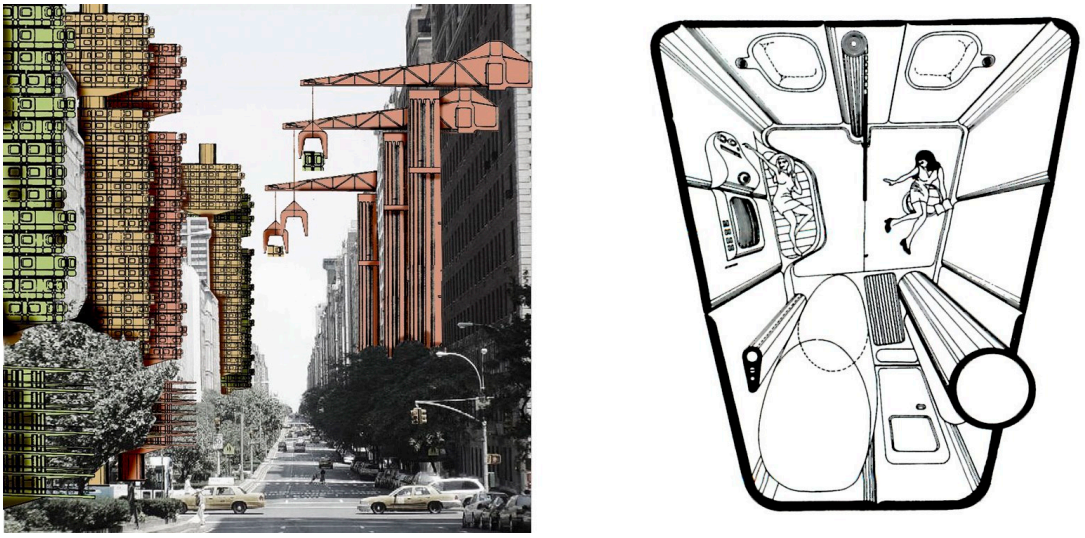

Figure 4. Plug-in Capsule Homes (1964): Megastructure vs. Capsule.

3.2. Japanese Metabolism: the cell

Al igual que Archigram, Shinchintaisha[8] talks about mobile, ephemeral, nomadic architecture, and organic biological growth based on megastructures where pre-fabricated dwelling cells could be attached. These ideas were mixed with the Japanese tradition: Buddhist concept of continuous renewal and regeneration.

Kenzo Tange, who was invited to Otterlo 1959 (last of the CIAM), was the leader of this group, despite he didn't participate in their written manifesto[9]. The largest and most representative concentration of metabolic buildings took place during the World Exposition in Osaka in 1970. However, the iconic building of this movement, 'Nakagin Capsule Tower' (fig. 5), was built two years later in Tokyo.

[8] Japanese word, meaning "replacement of the old with the new", and translated literally as Metabolism

[9] The document "*Metabolism 1960. The proposals for new urbanism.*" was presented during the Tokyo World Design Conference of 1960. Structured around 4 essays, it mainly contained proposals from Kenzo Tange classmates and students: Noboru Kawazoe, Kiyoshi Awazu, Kiyonori Kikutake, Kisho Kurokawa, Fumihiko Maki y Masato Osaka

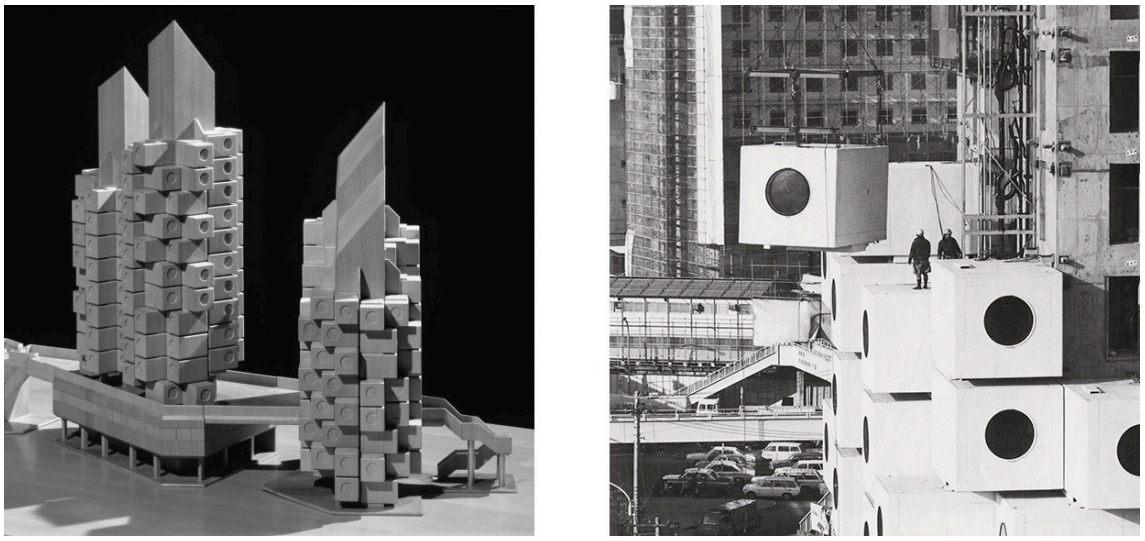

Figure 5. Nakagin Capsule Tower, Tokio JP (1972): Idea vs. Construction.

Kurokawa's research about prefab cells and three-dimensional steel framework started in Osaka ('Takara Beautillion'). Nakagin is made with 2 concrete core towers, containing stairs and lifts, in which 140 prefab capsules [*functional and constructive module*], made with light steel welded trusses, are plugged in.

3.3. Soviet Modernism: heavy prefab

Figure 6. Romashka, Chisinau MD (1978-84): Idea vs. Construction.

On the other hand, Soviet countries bet hardly on industrialization[10], and created a multitude of plants where standardized concrete panels were made. With them, rigid type-blocks based on symmetry and repetition were built, which have generated the typical image of the periphery of any Eastern Europe city (fig. 6).

[10] Khruschhev, one year before becoming USSR president in 1955, delivered a long speech about prefabricated housing, titled: "*On the extensive introduction of industrial methods, improving the quality and reducing the cost of construction*"

In these construction models ("2D prefab"[11]) the housing unit does not have its own construction entity, being only the usable space left in the middle of a bidirectional net of concrete load-bearing panels. In other words, the houses are adjusted to one or more [*geometric modules*]: the modular net.

Figure 7. Habitat 67, Montreal CA (1967): Idea vs. Construction.

Halfway between Archigram, Metabolism and Heavy Prefab, we find a unique and influential project by M. Safdie (fig. 7). Built in Montreal on the occasion of the Universal Exposition of 1967, 'Habitat 67'[12] is a vertical aggregation of 354 precast independent concrete modules. The combination possibilities of these [*constructive modules*] ("3D prefab") allow to create up to 16 different housing types[13].

4. Contradiction

Sometimes, the appearance of some buildings seems to indicate that prefab modular aggregation technology has been used [*constructive modules*], but in fact they have been built with conventional systems and traditional techniques (fig. 8). On other occasions, buildings are ordered based on strict modular nets [*geometric module*], but not a single prefab component has been used.

[11] 2D prefab structural systems are those that use flat prefabricated elements (two dimensions) to configure the building. The assembly of the different panels (vertical) and slabs (horizontal) usually follow a modular Cartesian (rectangular) net, although there are built examples that follow another type of ordering nets.

[12] The building that was finally constructed is a shortened version of Safdie's thesis Project (1961), titled "A Three-Dimensional Modular Building System".

[13] Analogous to 'Immeuble-villa', Safdie combines two antagonist typologies: the detached house, and the apartment blocks, so that every housing unit can have an outer space ("gardens in the sky").

Figure 8. Residential house, Bobruisk BY, 1980 (Galushchenko, Kozhich) vs. Krstarica, Split HR, 1973 (Gotovac).

Despite having theoretical approaches (project idea) in accordance with the principles outlined above, it was not always possible to have a coherence between concept (idea) and technology (construction), mainly due to financial problems, but also due to the lack of materials, or even constructive know-how. This is the case of two pioneers in the introduction of prefab in Spanish architecture: Leoz and Bofill.

Figure 9. 218 viviendas experimentales, Torrejon de Ardoz ES (1975): Idea vs. Construction.

Rafael Leoz conducted a rigorous research on the possibilities of industrialization in order to produce mass social housing. In 1960 he presents his 'modulo HELE'[14], a "molecule" formed by four equal cubes arranged in the form of "L", whose aggregation allows to obtain complex shapes. In his book "Redes y Ritmos Espaciales" (1968), he tackles his theory on the modular aggregation and ordering of architectural space through geometric principles.

[14] Acrostic formed by the first two letters of the surnames of Joaquin Hervas and Rafael Leoz, which also refers to the "L" shape of the group of four cubes. The 'modulo HELE' was presented in the article "*Un nuevo módulo volumétrico*" (Arquitectura, nº 15, 1960), and a year later, in the VI Bienal de Sao Paulo, 1961.

Leoz could only materialize two buildings: the 'embassy of Brasilia', and a group of 218 experimental houses in Las Fronteras (Torrejón de Ardoz, Madrid), in 1973-76 (fig. 9). Despite being based on the 'modulo HELE' [geometric module], the housing block was built by using local systems and simple and humble materials: reinforced concrete structure and brick cladding[15].

Figure 10. Walden 7, San Just Desvern ES (1974): Idea vs. Construction.

On the other hand, Taller de Arquitectura Ricardo Bofill developed a powerful investigation on the aggregative systems[16], and built interesting examples: 'barrio Gaudi' in Reus (1964), 'Castillo de Kafka' in Sitges (1965), 'Xanadu' (1966) and 'Muralla Roja' (1968), both in the Manzanera creek in Calpe (Alicante), and the spectacular 'Walden 7' (1970) in Sant Just Desvern (fig. 10). In spite of being strongly influenced by Archigram[17], in all these examples the constructive systems were "traditional": structures made by bidirectional slabs and reinforced concrete pillars[18].

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[15] According to Garcia (2013), "*the technology available in Spain in the 70s was practically non-existent.*".

[16] Although Ricardo's own sister, Anna Bofill, wrote a PhD where she relates mathematics and geometry, entitled "*Contribución al estudio de la generación geométrica de formas arquitectónicas y urbanas*" (1975), the role of this was irrelevant in the creative process, since this document was written after the execution of the works.

[17] Peter Hodgkinson, one of the members of Taller de Arquitectura, studied at the Architectural Association in London and was a student of Ron Herron, with whom he worked briefly.

[18] Ricardo Bofill himself acknowledges, in relation to the 'barrio Gaudí', that "*the economic limitations and the lack of available technology discouraged the general use of industrially produced construction elements, although the results were considered very positive, and are clearly visible in the complete scheme*".
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Biography

César Daniel Sirvent Pérez. (Alicante, 1974) Dr. Architect, he studied Architecture at ETSA Valencia (1999) and Construction Engineering in the EPS Alicante (1996). Professor of Architecture at University of Alicante since 2000, he teachs a subject about 'Unique Construction Systems" (lightweight prefab construction and aggregative modular systems). He also has been a visiting professor in several universities, mainly in Eastern Europe, where he developed his thesis on workers' housing with collective spaces in countries of the former USSR.

He has developed international workshops in order to design emergency shelters for natural disasters using lightweight prefabricated systems. He also has written several books where he develops a method to generate new architectural formalizations based on the use of lightweight prefab technologies. Currently he works in several research lines: construction with prefab three-dimensional cells, aggregative systems and organic growth based on modular frames, and ephemeral / nomadic construction using sea freight containers.

In search of the place of being ready-to-hand

Uncovering reciprocity between architectural design research and philosophy

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Synopsis

Based on Graham Harman's illuminating interpretation of Heidegger's concepts of *ready-to-hand* and *present-at-hand*, the paper elucidates some of the consequences of such an analysis for an architectural design research existentially revealing. Once this is done the argument is reversed by disentangling how acts of design research fine-tune Harman's philosophical revelations. In this way possibilities for architecture influencing philosophy are outlined and discussed.

The paper first describes *ready-to-hand* and *present-at-hand* in design research terms and their implications for *authorship* and *agency*. Secondly the paper suggests paths for a research that acknowledges the agency of the world in the navigation that humans perform through design processes. In conclusion some findings are shared towards the dissolution of authorship as an issue the designer-researcher-philosopher should not be mislead about. An alternative concern instead might find design emerging as the unending *placing* of being-nested in the world that unavoidably transforms philosophies in retrospective ways.

Key words: Design research, Heidegger, materiality, architectural theory, agency

1. Ready-to-hand and present-at-hand from Heidegger to Harman

Harman takes Heidegger's philosophy radically reduced as the revelation of the two fundamental ways of the being of things as ready-to-hand (Zuhandenheit) and present-at-hand (Vorhandenheit). As I will illustrate, this dichotomy is synthesised as "the relation between contexture and singularity in the entity"[1]. According to Harman the philosophy of Heidegger – although voluminously extended – is resumed mainly in explaining in many different and complex ways this one and only thing.

So Heidegger suggests on the one hand an object is ready-to-hand when its existence disappears into the context withdrawing from our attention. On the other hand, in the most common Heidegger's interpretations, an object instead is considered as present-at-hand when it we focus on it and individualise its existence in the simultaneity of ours. Harman calls *broken tool* to this coming into focus and intensity of the thing in relation to other things.

However, Harman takes Heidegger's binary concept to a radical consequence suggesting that what Heidegger implied is that the condition of Dasein is not a privilege of the human being but that it permeates anything that is.

This radicalisation of the concept of Dasein makes design-research to become a way to navigate the world by which every entity triggers a response from every other. Design-research is hidden in the infinite of the possible and brought to light in the evidence of the consequence of being with other beings. As human beings it seems easier for us to understand this by examples that include us. When we sleep we design our being in bed. We intuitively knead the pillows, if we feel we need them; we shape our body to them and shape them in tune with the position we are inclined to in that moment. We nest as birds do; we get into place as cats pawing the same pillows to settle there.

However Harman's interpretation of Heidegger invites us to consider the world as this context of individual beings in the process of becoming. For the purposes of the discussed dichotomy it is equal to be a human being than to be a cat, or a flock of dust, or an atom, or a triangle, or an idea, etc. However, does the flock of dust perform design-research? Is it meaningful exploring how things design-research other things and the whole context? Can I be air to design flow? Can I be fish to design medium? Can I be number to design pattern? The flock of dust is in an individual and unique way for the beam of light. And vice versa, the ray of light is revealed by the established relation with the flocks of dust. And as insignificant as the flock is, it still contributes with casting that tiny bit of shade for the light to be revealed.

[1] Graham Harman, *Tool-Being: Heidegger and the Metaphysics of Objects* (Chicago: Open Court Publishing Co ,U.S., 2002), p.55.

2. Two modes of design-research and their implications for *authorship* and *agency*

Let me now examine what are the implications of these modes of experiencing, and being in the world for the concept of design-research. First I am conceiving design-research as a twofold pulsation in the flow of existence composed by outcome and journey. These pulsations are manifold and constant in such a way that only for the purposes of pointing at them we are able to individualise the pulses of outcome-journey-outcome-journey.

Design-research as ready-to-hand is what we do to settle in our everyday engagement with the world. Involuntarily we navigate this world towards our being in place. This does not mean that we are ever out of place but that we move across places; we navigate. In Heidegger's fashion we could say that we engage in worlding. Therefore, I suggest that design-research in this mode emerges as a particular navigating of our being in which we attempt to better place ourselves; we move towards nesting so to say, to accommodate us to the world and vice versa. It is design because is done towards something. It is projected into the future in order to better place us. It is research because it moves us across places in order to find our place.

Design-research in the mode of being present-at-hand is instead what we do when the problem solving aspects of our navigation emerge into our focus. When we direct our intentionality to what Harman calls the *broken tool*. We do this by isolating in our concern the issue of our problem solving process. In that case we might become aware of our part of agency in the process. However, the fact that we have agency in the process does not reduce the agency of the rest of the things of the world; their agency might just be out of our main concern. Design-research in this mode is resolute, focused and individual.

3. Acknowledging the agency of the world and the design-researcher

The process of design-research is formed by the acts of navigation in the flow of being that we can identify as belonging to a field, a space of influence in our looking for our place. In both modes of design-research we have a space of influence; and that is what I would call our agency. Agency though is given in different ways when the design-research is being ready-to-hand than when it is being present-at-hand. We may be more aware of our agency within the design-research as present-at-hand since the performance of design comes forward to our consciousness. In that case we assign some authorship to us.

However, if authorship is the partaking of agency, how much authorship can we claim? I suggest that in the answer to this question we might uncover the hidden immensity of the relevance of the world and our own insignificance as design-researchers.

4. Some initial reflections about knowing as the constant believing that we know

If the significance of authorship emerges as reduced, if not always dissolved, in relation with the process as a flow of existence, how can we benefit from a design-research journey that oscillates between its disappearance within the contexture and its epiphany of individuality? When we believe that we are in control, are not we being misleadingly naïf and being distracted from our inclination to a better nesting? Is there any meaningful place for the arrogance of a designer's role in a journey that involves many other things for the design to emerge?

It is not my intention suggesting a teleological concept of design-research in which the emergence of certain outcomes of the processes is considered as necessary or inevitable. I do not think the bicycle was unavoidable in our technological evolution. However, I suggest that – having the world been arranged in other ways – the bicycle could have not happened. Although this might still be open to debate, I hope it could be ontologically dispelled. Dasein is – I believe – complex, infinite and mysterious. And when I say Dasein I am not only referring to the human being. I am also saying, along with Harman, that all entities are Dasein. Everything is there and – within that everything – by design-researching we navigate.

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Biography

Fidel Meraz is Senior Lecturer in Architecture in the Department of Architecture and the Built Environment of the University of the West of England, Bristol. He is a trained architect who has worked in architectural and design education and research in both Mexico and the UK. He has taught at the University of Nottingham, Nottingham Trent University and the University of Suffolk. At the latter he developed and directed the Interior Architecture and Design course. In practice, he has worked extensively in Mexico, Italy and Central America on diverse projects from private housing to commercial fashion malls.

His research focuses on philosophy and theory of architecture, mainly with a phenomenological perspective. He explores issues about the relationship between architecture, temporality, and place such as collective memory and spatial identity, and architectural heritage conservation. His PhD at the University of Nottingham offers a phenomenological account as a critique of modern architectural conservation taking Cesare Brandi's *Theory of restoration* as a case study. He has published and presented a number of papers at international conferences on architecture and philosophy.

MERAZ, F, 2016 On the experience of temporality: existential issues in the conservation of architectural places. Journal of Aesthetics And Phenomenology, Vol. 3, Iss. 2,2016.

The Cybernetic Relevance of Architecture

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Synopsis

In his article "The Architectural Relevance of Cybernetics", (1969), Gordon Pask supported the substantial affinity between the interdisciplinary field of cybernetics and architecture. According to Pask, this affinity is not limited to the diffusion of computer-aided design (which implies the application of a cybernetic method to architecture), but is rather justified on the basis of the new point of view on machines and organisms carried by cybernetics, with the tendency to equate them on the basis of their systemic nature.If on the one hand it is therefore possible to affirm with Pask that cybernetics is relevant to architecture, it is perhaps possible, on the other hand, to overturn this statement and support the hypothesis that architecture has been and is still relevant for the development of studies on cybernetics, having represented one of the most effective fields of application.

Key words: Cybernetics, Systemic Approach, Adaptive Architecture.

1. Introduction

In his article "The Architectural Relevance of Cybernetics", published in Architectural Design 9 (1969), Gordon Pask supported the substantial affinity between the interdisciplinary field of cybernetics and architecture. According to Pask, this affinity is not limited to the diffusion of computer-aided design (which implies the application of a cybernetic method to architecture), but is rather justified on the basis of the new point of view on machines and organisms carried by cybernetics, with the tendency to equate them on the basis of their systemic nature: "[...] Architects are first and foremost system designers who have been forced, over the last 100 years or so, to take an increasing interest in the organisational (ie, nontangible) system properties of development, communication and control. Design problems were coped with as they cropped up, but for some time it has been evident that an underpinning and unifying theory is required. Cybernetics is a discipline which fills the bill insofar as the abstract concepts of cybernetics can be interpreted in archi-tectural terms (and, where appropriate, identified with real architectural systems), to form a theory (architectural cybernetics, the cybernetic theory of architecture)" (Pask, 1969).If on the one hand it is therefore possible to affirm with Pask that cybernetics is relevant to architecture, it is perhaps possible, on the other hand, to overturn this statement and support the hypothesis that architecture has been and is still relevant for the development of studies on cybernetics, having represented one of the most effective fields of application.

2. Cybernetics and Systemic Approac

The term Cybernetics was introduced by Nobert Wiener who defined it as “the scientific study of control and communication in the animal and the machine” (Wiener, 1948). The possibility of equating living organisms and machines, from a cybernetic perspective, was justified by the fact that both entities could be seen as self-regulating machines, capable of controlling (or better reducing) entropy through negative feedback of information. In fact, the first-order cybernetic systems (1945-60) were characterized by self-regulation, that is the homeostatic property that guarantees control and stability through feedback loops, constantly pursuing a goal of equilibrium through the elimination of possible unexpected events. (Yiannoudes, 2016).

In Towards a Scientific Architecture (Friedman, 1971) Yona Friedman hypothesized an architectural process in which the architect builds combinatorial lists of spatial configurations aimed at solving the problem of the connection of the spaces. Pursuing an idea of user-driven design, he proposed the use of a machine, the FLATWRITER, which would allow the end user to access these lists to configure their own home.The system operated on the negative feedback loops acts to correct any "errors", it was therefore a fist-order cybernetics.

The second wave of cybernetic theories (second-order cybernetics), by exploring the potentials of positive feedback and the capacity for self-organization of systems (von Foerster, 1975) , proposed a first conceptualization of adaptive systems (social and environmental). The best-known example of application to architecture is the Cedric Price's Fun Palace

(1961-1974), a mega-structure with recreational and educational functions, which was composed of a modular structure within which the spaces they were defined by mobile and flexible elements. Users themselves could change the configuration of these spaces thanks to a feedback cybernetic system created by Gordon Pask (Mathews, 2007).

In general, starting from the 50s and 60s, many disciplines, including architecture and urban planning, began to develop their range of systemic approaches as a basis for consolidating its theoretical and practical structure. Applied to urban planning, this approach, initially based on the Theory of Control elaborated within the framework of the Theory of General Systems, saw the city as the system to sort through a controller (the planning), a specific subsystem, charged with coordinating all the others, which acts to rebalance the system that has moved away from its goals. Subsequently, the sciences of complexity allowed the transition from the idea of a city as a product to thinking of it as a system that evolves, grows and changes in ways that could be directed and managed but hardly imposed with a top-down plan (Batty, 2010). The first step towards this change is represented by the work of Jane Jacobs, Death and Life of the Great American Cities (1961), who, in the last chapter of the book entitled "The Kind of Problem the City Is", provided a conceptual basis for his arguments defining for the first time the city in terms of organized complexity, taking into account the definition that the mathematician Warren Weaver postulated in 1948 (Bettencourt, 2013)

3. Towards an adaptive architecture

The twentieth century therefore witnessed a continuous research, in the architectural field, of ideas, techniques and strategies to make buildings, and in particular domestic spaces, flexible, able to adapt to changing needs and conditions. This research led, starting from the second post-war period, to an increasing number of architects and researchers experimenting with the application of cybernetics to the built environment, using concepts such as indeterminacy, feedback of information, self-regulation and adaptation to imagine "open" architectures susceptible of modification by users.

According to the cybernetic perspective, flexibility was neither an extension of functionalism nor its denial: since the 1960s, the concepts of flexibility and function are progressively replaced by those of adaptation and behavior. The systemic approach to architectural design has therefore brought about a new awareness of the evolutionary nature of urban and architectural systems. As Pask notes, “systems, notably cities, grow and develop and, in general, evolve(…) An immediate practical consequence of the evolutionary point of view is that architectural designs should have rules for evolution built into them if their growth is to be healthy rather than cancerous. In other words, a responsible architect must be concerned with evolutionary properties; he cannot merely stand back and observe evolution as something that happens to his structures”(Pask, 1969). The idea of an evolutionary and adaptive architecture upsets the traditional operating modes of architecture, as they imply a loss of control over the formal definition of the building. However, the development of cybernetics and digital technologies has allowed us to define new methods of

control over the design process, which doesn't contrast but makes use of the concepts of unpredictability and indeterminacy, interpreting the new knowledge relating to the behavior of Adaptive Social Systems.

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Biography

Claudia Chirianni. Claudia Chirianni is an architect, researcher, artist and computational designer. After graduating in Architecture (2010) she worked as designer in international architecture studios, including Miralles / Tagliabue (Barcelona) and Foster + Partners (London). At the same time, she began a research program in the field of Complexity Theory, Cybernetics and Computer Science resulting in a PhD research, which she currently conducts at the Department of Architecture of the Federico II University of Naples, and in an artistic production whose focus is the exploration of the aesthetic and design potentials of the concepts of randomness, indeterminacy , self-organization and human-machine interaction.

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Interactive communication for a shared city

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Synopsis

The main objective of the DATA project[1] (Developing Abandoned Transurban Areas), is to identify innovative strategies to regenerate abandoned areas in the City of Padua in accordance with guidelines in Veneto Regional Law 6.6.2017 on containing land consumption. The research places particular emphasis on creating mechanisms capable of giving new life to disused transurban areas by acting on the urban fabric situated at the city margins (Fig.1, Fig.2). To be able to address the different themes and develop concrete proposals, the research was divided into six complementary areas: “Web GIS”, “BIM and land information modelling”, “Pilot scenario design”, “Urban planning”, “Waste recycling”, and “Data management and ICT” (Fig.3). In particular the present article investigates the last area regarding the interoperability of data and communication.

Key words: Periphery, transformation, multi-level communication, interaction.

[1] DATA project: University of Padua: Civil, environmental and architectural engineering. Financing: Veneto Region; European Social Fund POR FSE 2014-2020. Prof: L. Stendardo (P.I.), M. De Marchi, A. Giordano, M.C. Lavagnolo, M. Savino.

Figure 1.

Figure 2.

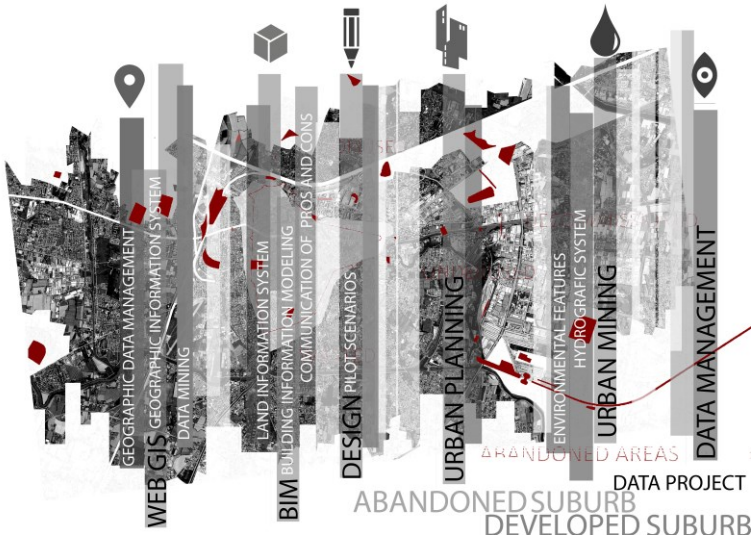

Figure 3.

1. State of the art[2]

With regard to the state of the art, two distinct, complementary areas are analyzed: i) the management and systematization of data and ii) communication, visualization, and ICT.

For the first area i), among numerous existing case studies, the analysis concentrates in particular on those presented in session 6 at the INU Napoli 2017 10th Study Day—'New computer technologies for the territory'. During the conference, the most recent research regarding urban regeneration was examined, in particular the representation of the territory.

With regard to the second area ii), two of the many case studies investigated were selected[3], in particular those characterized by the use of interactive modalities:

The 'Sensitive City' (Studio Azzurro, Shanghai 2010): Life-size fi¬gures projected on a vertical surface, the storytellers, pass by the visitors who can invite them to speak by raising their hand; and 'You are not Here' (NYC 2006): This installation invites participants to be¬come meta-tourists, simultaneously visiting multiple cities simply by using a downloadable paper map and a smartphone.

2. Structure of the project: ICT and multimodal interaction

The entire structure of the DATA project is based on multidirectional connections between the six areas previously mentioned. As an exemple: the 3D BIM modelling of the city is directy connected to GIS buildings information and the Design is directy connected to the ICT that allows the communication of the architectural scenarios created. In the present paragraph, the sixth area is investigated.

"Whilst we only remember ten percent of what we read, we remember ninety percent of what we do"[4]. "The association of virtual information with multimodal sensory experiences creates a new layer of knowledge. Making virtual information tangible, even in the virtual environment, makes the information more accessible and enhances knowledge transfer"[5]. In this view, in the course of the present research, the experimentation was directed at immersive and interactive output aimed at creating a flexible cultural network. The work aims to reevaluate the concept of regeneration by creating a direct communication channel between people and city processes. Only flexible, multi-level communication is able to interpret the character of these complex, dense areas of overlapping realities. Toward personalized outputs, customizable maps and a searchable database an effective and updated interaction is achieved.

In what follows, different types of proposed output are analyzed:

-Video Intro: This output consists of a promotional video that presents an exploratory itinerary of the urban landscape. Like the trailer adopted in

[2] Paragraphs: Synopsis: Luigi Stendardo; State of the Art, Structure and Conclusion: Giulia Pettoello.
[3] J.Allen, E. Lupo, ibid.
[4] F.Cameron, S. Kenderdine. Op.cit. P.143.
[5] Ivi P.371.

cinematography, the video narrates an extremely synthesized history and story, using a few images, sounds, and words (Fig.4).

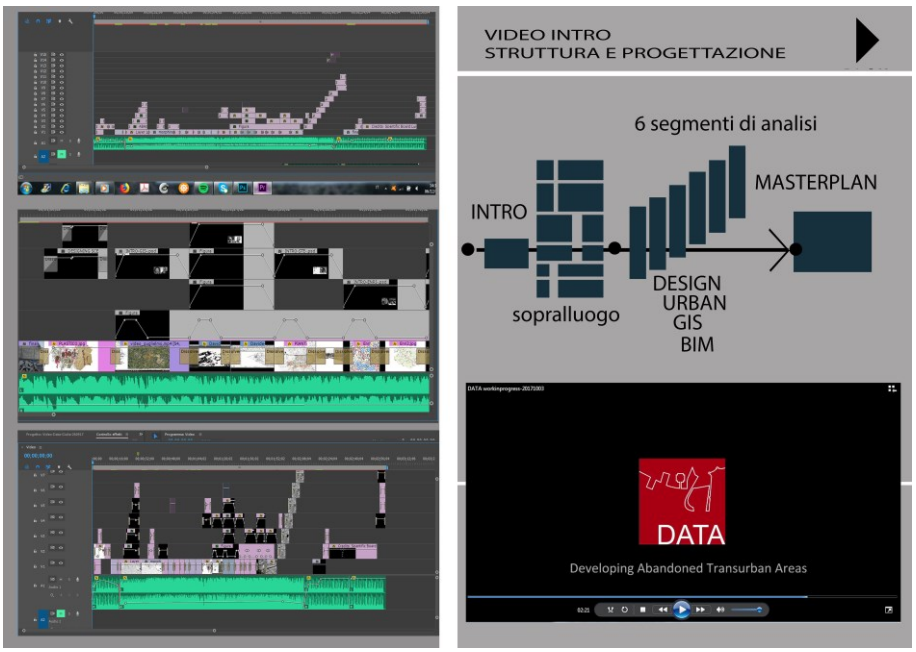

Figure 4.

- Web Platform: The project entails the creation of a web platform, to make possible the interoperability of various data both collected and produced over the course of the work. Using the platform, which is based on the MySQL database, it is possible to connect directly to the GIS world created thanks to the use of Geonode which is based on the Postgres database, thereby accessing the multilevel-urban-maps created. The objective of the system is twofold: an ordered archive of the data and the creation of a "query user-friendly" mode to rapidly explore and use any content (Fig.5).

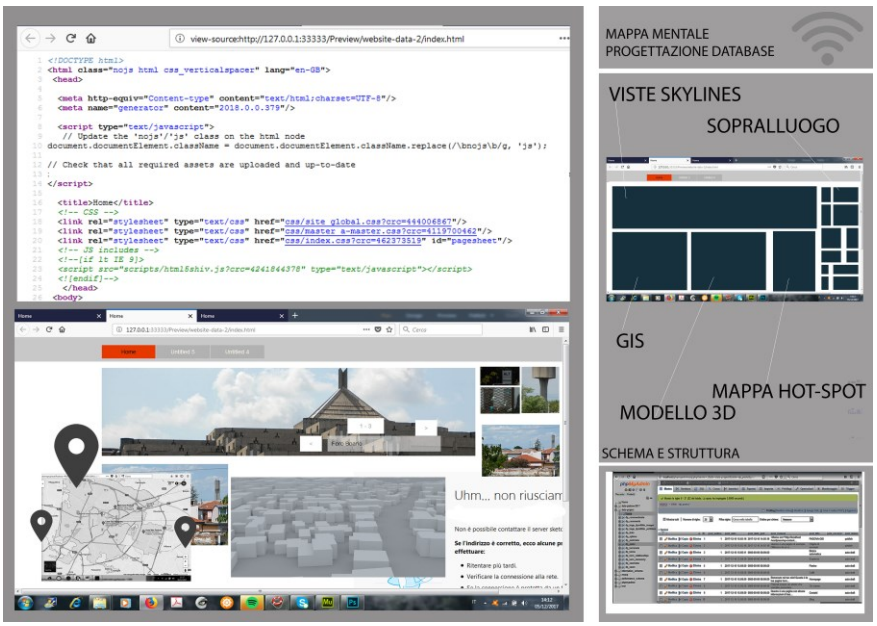

Figure 5.

- VR-explorable model: This output consists in reconstructing the urban landscape in the use of which the user plays an active role. The exploration of space (3D urban model) in real time allows the user to be arbitrarily free: pre-established fixed flow exploration[6] is replaced by personalized and instinctive random flow exploration. With the 3D visor, the user can activate and access future project scenarios on the model of the city in real time (Fig.6, Fig.7).

-App for tablets: This application presents a 360° model of the city, but in this case, in contrast to the model explored with the visor, greater space is given to the possibility of real-time access to historical information and descriptions related to the architectural design.

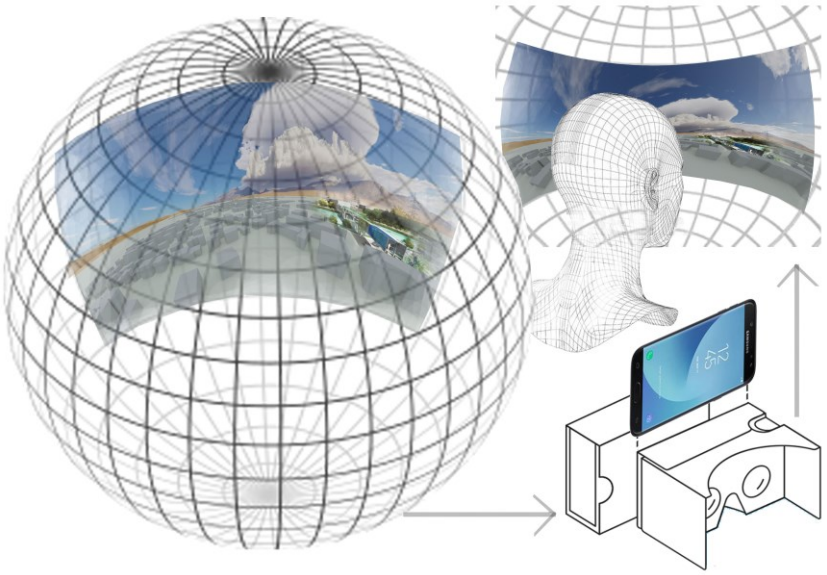

Figure 6.

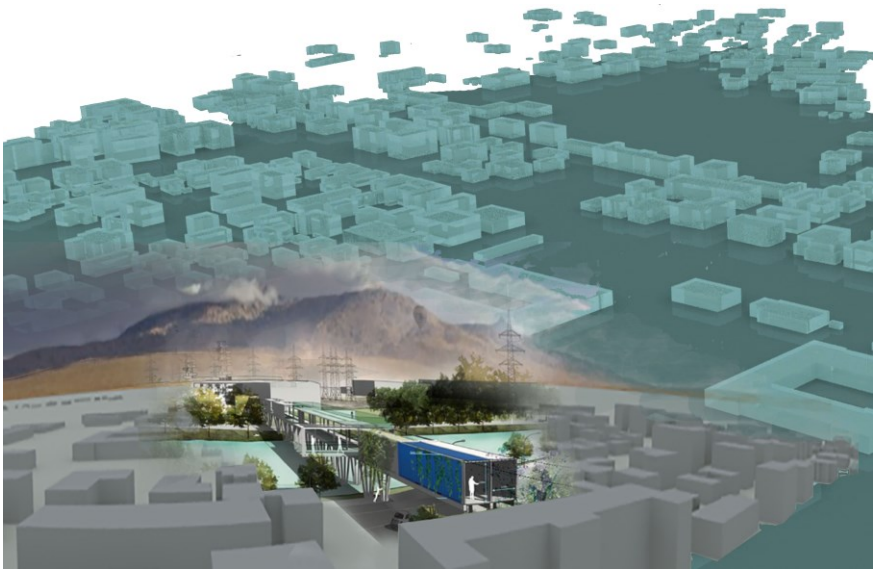

Figure 7.

[6] Credits Fig. 7: VR G.Pettoello –3D: D. Barbato – Image content: Architectural Project: Workshop of Architectural and Urban Design 2017 "The Canal of Babel" professors: L.Stendardo (supervisor), L.Siviero, S. Antoniadis. Students: Marco Barison, Arancha Garcia-Quijada Garcia, Giada Pozzato, Sarah Reverenna. Location: segmento di Granze di Camin, Padua.

3. Conclusion

The goal was to construct a methodology capable of reading and investigating the urban fabric to develop a proposal for planning visions and scenarios for regeneration. Beyond presenting concrete proposals for the City of Padua, the goal was also to create a method characterized by the use of open-source technologies that could be adapted to any other situation responding to the extremely widespread problem regarding the disuse of marginal metropolitan areas (Fig.8).

In the research, reference is also made to the objectives of the "Cultural Heritage Platform", with particular regard for the goals established in the Horizon 2020 projects in Reflective 7 "Advanced 3D modelling for accessing European cultural assets". Focus is placed on research and the development of methods to represent and analyze the built environment, without pausing on a simple digital reconstruction. The aim is also to create an innovative, dynamic communication project capable of attracting the interest of different stakeholders and citizens, and therefore to give rise to a process of open, shared communication. The DATA research therefore aims to develop a theoretical and practical method to manage and communicate critical models of transurban areas that are particularly complex and hold enormous potential.

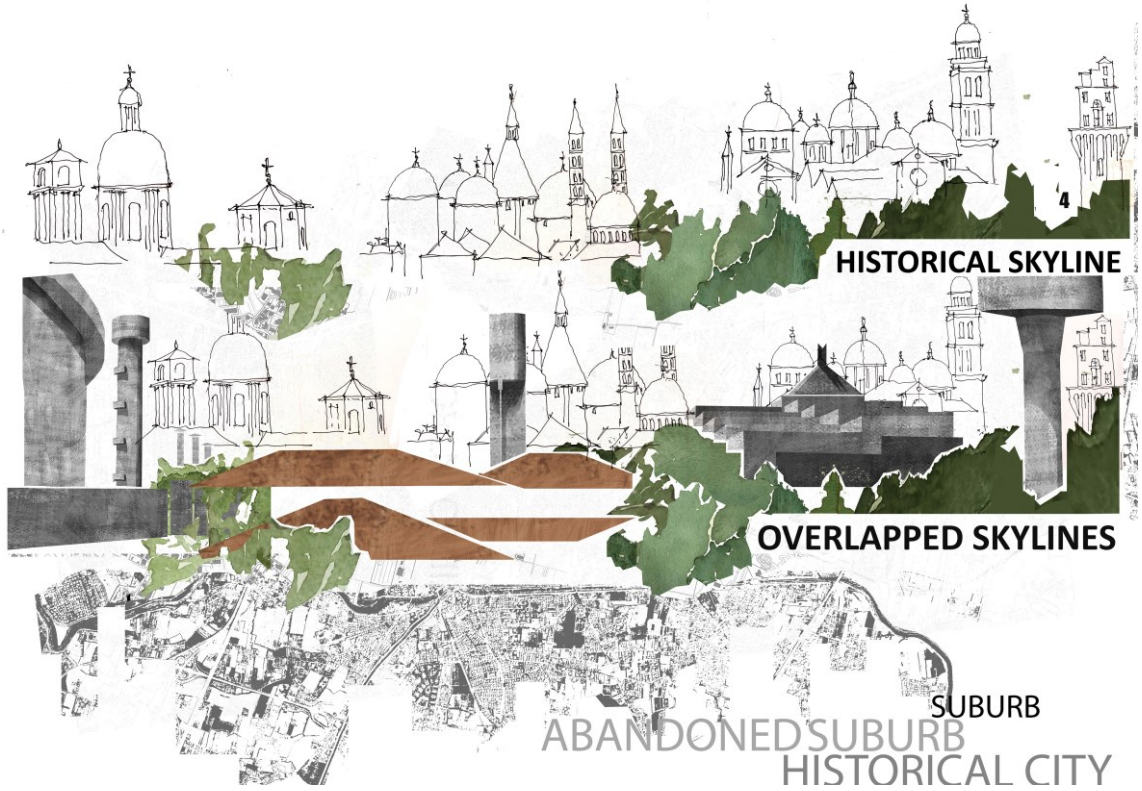

Figure 8.

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Biography

Giulia Pettoello. Architect and researcher at the DSDRA (Department of History, Representation and Restoration of Architecture) at the Sapienza University of Rome. She graduated with honours at the Sapienza University of Rome in 2012 and studied at the Polytechnic University of Valencia in Spain throu¬gh the ERASMUS Program. In 2012 she registered with the Association of Architects in Rome. In 2014 she completed a three months internship at the Duke University in North Carolina U.S.A. In 2016 she obtained a PhD in Sciences of Representation and Survey at the Department DSDRA at Sapienza University of Rome with a thesis entitled: “Mutable Museum: digital for the enhancement of cultural heritage”. Currently she is a research fellow, specialized in data management and ICT, in the project “DATA: Developing Abandoned Transurban areas” which is being held in Padua’s University: DICEA (Department of Civil, Architectural and Environmental Engineering).

OPEN Scampia

Digital Practices and contemporary city. A parametric approach to the Urban and Architectural Design

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Synopsis

In the era of the information society and the economy of knowledge we are facing a substantial change of relations with the physical world.

This way of thinking is due to the impact that digital tools have had in every field of knowledge and in large part of the aspects that characterize the daily lives of people. In this framework the contemporary city itself represents a field of experiment in which this kind of tools are playing a fundamental role in the development of future systems and scheme of development process.

The application of digital parametric drawing tools in the urban design requires to change completely the way of thinking the project process, in that sense this affects the way of conceive the urban and architectural design process, in a positive way through the enrichment of new possibilities of forms and more efficient and sustainable architectures. This is possible through an appropriate reflection on the influence of the drawing tools on the architectural and urban design.

The proposed paper want to focus on the role that new tools, that permit to include different kind of data and parameters in the definition of the project idea, have had in the development of the architectural and urban design project, especially in the setting up of a new language and syntactic models. The use of digital parametric design tool differently from the traditional design tool implies a more strict connection between ideation and design process.

Key words: Ideation, project process, architectural design, contemporary city.

1. Approach to the question

If design tools and drawing have had a great influence in the evolution of architectural language, nowadays the parametric design tools represent a different way to conceive the project connecting imagination and practice. These tools have the value of managing an innumerable amount of data and parameters that help to interpret the actual complex urban context of the contemporary city in a more comprehensive way. There is a slight change in position from an exclusively spatial perspectiveto a topological one, focused on relationships and interactionsbetween people, places and institutions at every scale. (C. Ratti, D. Offenhuber, 2014)

The proposed topic has been developed in a research within the topic of the relation between the graphic ideation and architecture, and the importance of the role of the architect (as the “mind” that manage the tool) in the development of the project process even using digital and parametric tools.

The research has been developed during the didactic activity related to the development of a final project on the regeneration of the area of Scampia in Naples. In this particular case the demolishing of the “Vele” is going to generate a great urban void – a tabula rasa - that needs a strength in the ideation of a new idea of this “generic city”. Starting from the recent study on Open Data and Decoding the City, we think that today it is necessary a change in the way of thinking the project process, especially on the planning of the contemporary city, and a new approach to ideation through the use of graphical algorithm editor tools.

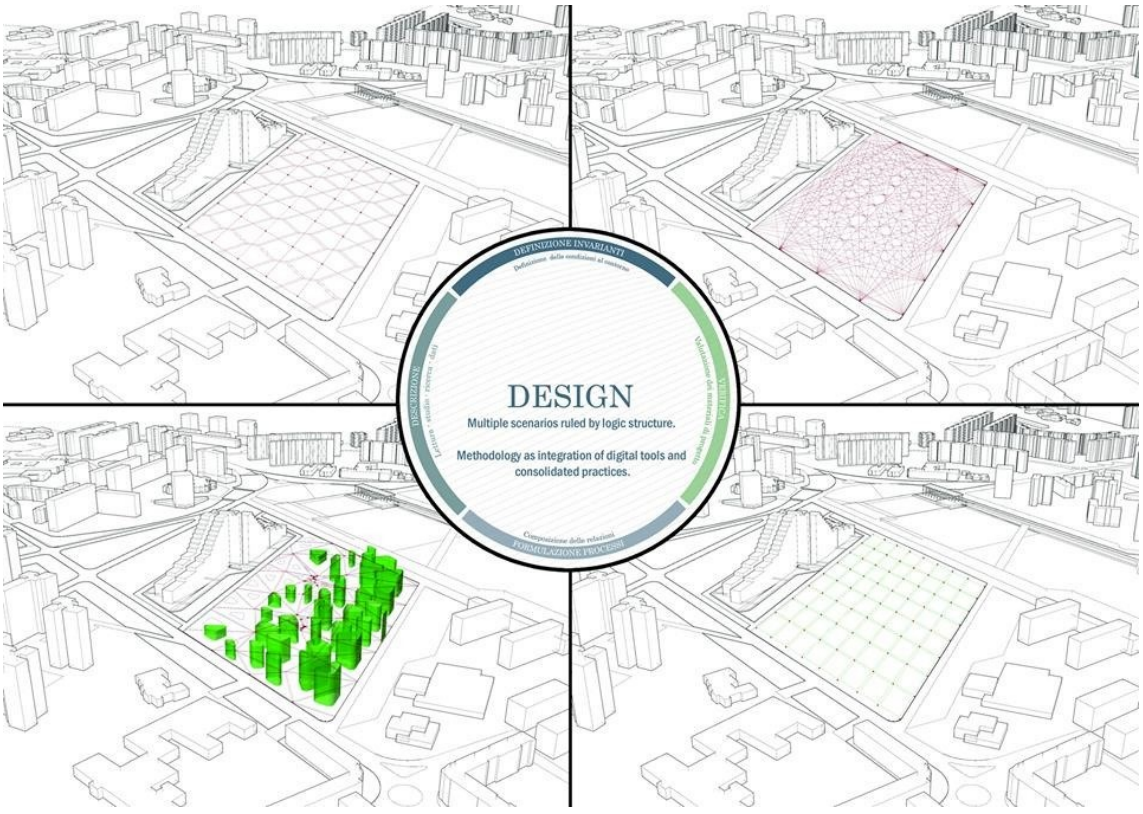

Figure 1.

2. Objectives proposed and achieved

How this tools may enrich and influence the work of architects and urban designers, adding or changing the way of thinking the development of an architectural project?

At the beginning of the 19th century James Dana in his study “On the Drawing of Figures of Crystals”, started to discuss about the relation between data and parametric design project, in the recent times the Italian architect Luigi Moretti has been introducing the definition of Architecture as a structure of "complex relationships" and in its concrete character, as a structure of “energy density” that includes spaces. Today a wide range of different applications have been developed in different cases in the project of large scale (from Michael Batty to Carlo Ratti Associates), a critical lecture of these applicationsrepresent the basis for the development of the proposed research that wants to focus mainly on the debate between the graphic ideation and the project process in urban and architectural design.

The objectives of the proposed research are:

- to demonstrate that the drawing parametric tools (as Grasshopper for example), integrated to the traditional and consolidated practices for urban design drawing tools, could represent an extremely powerful resource in creating complex processes that require a management of a great number of data in the urban planning practices and in the definition of planning solutions for the design of difficult contexts of the contemporary city, were the need is not only to define the appropriate architectural form of a plan, but to include in the project a lot of different parameters that deal with the social, political and economic spheres.

- to demonstrate that considering the fact the drawing tools has a powerful influence on the planning strategy and on the relation between the citizens, the politician and the technicians, is possible to use the new technologies in order to involve the people in the strategic decision.

The expected results are:

- the definition of a method that permit in a simple way - through the application of the knowledge in the use of parametric digital design tools- to define awider range of possible project solutions through the use of graphical algorithm editor tools, based on the use of open data

- to fill the gap between the people whom the project is targeted, technician and decision-makers, using the drawing digital parametric tools as a crucial instrument to drive the design process.

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Biography

Giuseppe Marsillo. Artistic and architectural training, always passionate about new technologies, comprehension of phenomenons and design process, from traditional design to computational morphogenesis. Master degree in architecture at “Università degli studi di Napoli Federico II” with the thesis “Digital practices and contemporary city, parametric methods for urban design”. During the years I joined working experiences in companies and professional studios, concerning architectural design, product, interior and lighting design starting my architecture and design office in 2017. Currently studying “Management of the complex architectural project” at Università “La Sapienza”, Roma.

StreetSpace

A Method for saving the Cathedral Quarter in Belfast

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Synopsis

Local mixed-use streets are at the core of urban life. The twentieth century saw a radical transformation and destruction of many of these streets. Since the 1990s, practice followed 1960s scholarship in a return to valuing local mixed-use streets, but they are still under threat by large-scale urban development.
The StreetSpace project studies this phenomenon since 2013, exploring ways of understanding local mixed-use streets as public spaces through the lenses of different disciplines, **driven by architectural analysis**.
This paper will explain the significance of local mixed-use streets and the synergies developed between the StreetSpace project in Belfast and the SaveCQ campaign, which advocates to defend the Cathedral Quarter's 'historical importance, distinct character, and current prominence as the beating heart of Northern Ireland's arts and cultural scene'.

Key words: Streets; public spaces; urban analysis; urban methods; architecture.

1. Introduction

> 'A sidewalk life arises only when the concrete, tangible facilities it requires are present. (…) If they are absent, public sidewalk contacts are absent too.' (Jacobs 1961, p92)

Local mixed-use streets contain retail, services, production, leisure and residential uses. They gradually adapt to change and promote the integration of different cultures. Academics and urban designers have recognised their value for decades (Jacobs 1961, Whyte 1980, Vernez Moudon 1987, Mantho 2014, Gehl 2012, Vikas Mehta 2013). However, increasingly car- and retail-led redevelopment, threatens to transform them quickly and radically turning them into placeless streets (Cresswell 2015, Harvey 2012, Relph 1976). Placeless redevelopment displaces residents and traders; privatises public spaces, and sets boundaries to the expression and experience of culture. Scholars are therefore focusing on strategies that highlight their environment, their material culture and the significance for the public (Hubbard 2017, Vaughan 2015, Cranz 2016, Zukin 2012, Degen and Rose, 2012). The best way to tackle this problem is to begin by understanding what those local mixed-use streets are and why they are valuable.

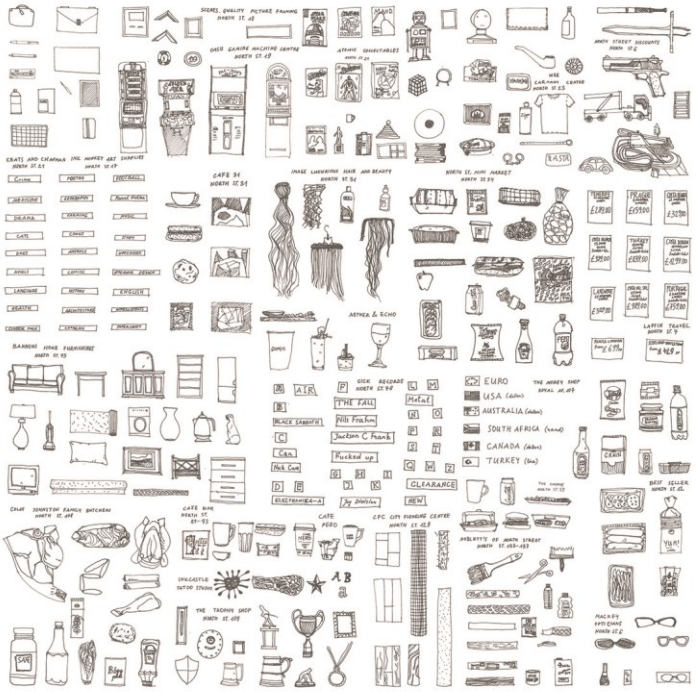

Figure 1. Products sold on North Street - by Milda Paceviciute.

2. StreetSpace research and methods

The multidisciplinary research and practice-based nature of this project is developing ways to shed light into the changing nature of local mixed-use streets from academic, policy and practice perspectives. We look for ways to analyse and understand the social and cultural significance of local mixed-use streets. Through a series of workshops and case studies we explore local mixed-use streets by combining specific tools of built environment, humanities and social sciences. We aim to understand the way in which the urban form of

mixed-use streets relates to how they are experienced, and their process of slow transformation. We map the physical environment in detail; and study the use, occupation and experience of that environment from the planner's, developer's and user's perspective. This project provides a broader way of understanding, planning and developing mixed-use streets.

The streets that we analyse are city centre, local mixed-use streets, with a mix of retail, leisure, services, offices and housing. They have a recent past of cultural diversification and are at risk of large-scale redevelopment. Each street is studied through three lenses:

- Histories, through archive material and current interviews, to explore the use, occupation and transformation of local mixed-use streets.
- Perceptions, through interviews and surveys of shop owners, inhabitants, users, planners and developers to understand use, occupation and sense of place
- Aspirations, through urban plans, policy and town centre management in the last 40 years to understand the top down initiatives of Street Spaces.

All layers of analysis are supported with a thorough understanding of the physical environment of the street. This provides visual tools for the process of analysis.

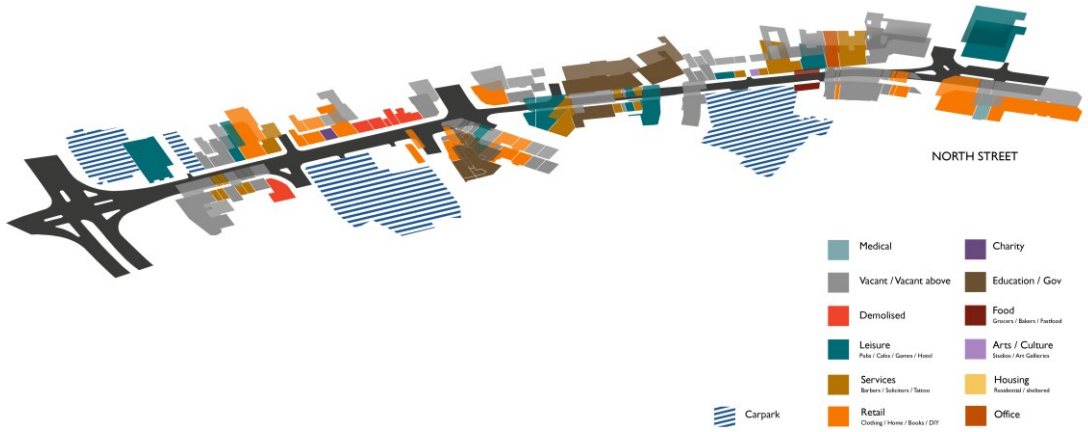

Figure 2. Commercial uses - by Conal Casey and Jack Knights.

Figure 3. Buildings in North Street demolished December 2016 - by Callum Black.

3. Belfast Case Study: North Street and SaveCQ

North Street in Belfast City Centre is one of the streets affected by current and potential large-scale development. It has a significant nineteenth and twentieth century built fabric, but much of its top floors are in disuse and vacant. The shops cater for a broad diversity of uses, from bookshops to grocery stores and from galleries to tattoo shops. There are some very valuable buildings and uses, and despite the presence of a few large parking lots, the area still has a strong sense of place. Unfortunately, a series of valuable but unlisted buildings have been recently demolished. Despite the efforts of a series of not for profit organisations, current legislation in Northern Ireland seems unable to protect the heritage of local mixed use streets.

The Royal exchange project, which includes North Street as its main thoroughfare, presents retail and office-led, generic and homogenous development with little participation of the public. Despite this area's historical importance, distinct character, and current prominence as the beating heart of Northern Ireland's arts and cultural scene, the proposals are for widespread demolition, replacing independent businesses and arts organisations with generic retail & offices.

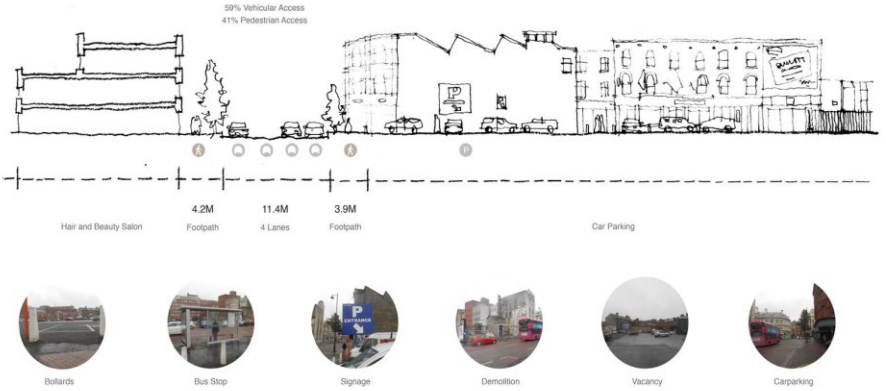

Figure 4. Street Section - by Mark Donnelly.

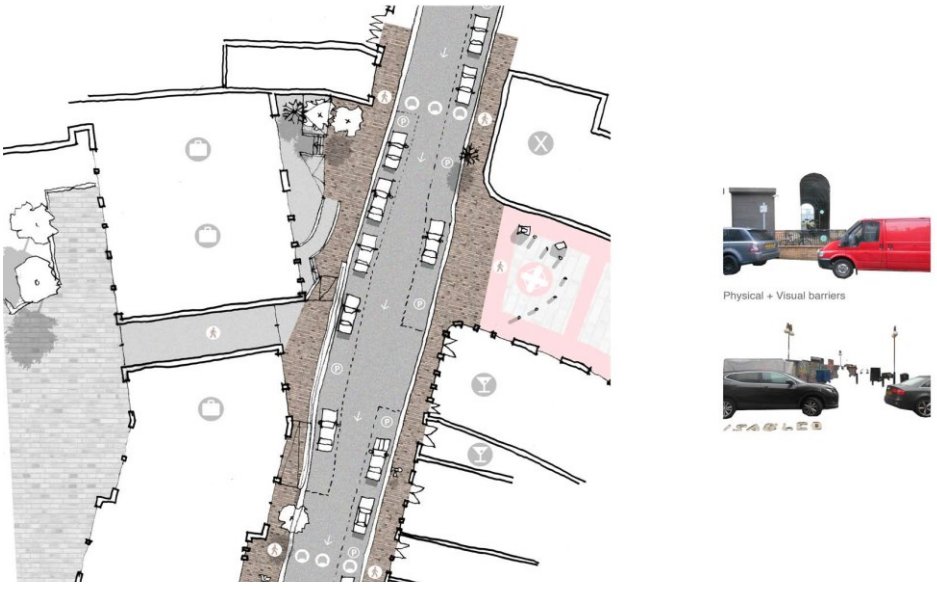

Figure 4. North Street Junction - by Mark Donnelly.

SaveCQ was founded in February 2017 as a campaign to highlight the value and significance of the area. Save CQ is a voluntary organisation, independent of any political or commercial interests, and acts out of a desire to see this city flourish by retaining and nurturing the character that makes it distinctive.

The StreetSpace design studio developed since September 2017 as an architecture/planning design studio to give alternatives to the proposed Royal exchange scheme. It aims to develop North Street as a lively street, inclusive of different types of citizens, that is aware of its roots, its past, its history and its culture, a city made by and for its citizens. All this is done through an architectural understanding of good quality spaces that are inclusive and accessible.

Save CQ and StreetSpace have been working together to defend the value and significance of North Street and will continue using this method of analysis and proposals to inform the development of similar streets in Belfast and beyond.

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Biography

Agustina Martire. Lecturer in Architecture at Queen's University Belfast. Agustina studied architecture at Universidad de Buenos Aires. She is specialised in urban history and theory. She received her PhD at TU Delft on the history of Urban Leisure Waterfronts and worked as a post-doctoral researcher in UCD Dublin. She is currently leading StreetSpace, an international project on the analysis of streets as public spaces, from a multidisciplinary perspective, which sheds light on the way urban spaces are used and represented. She runs a design studio unit in MArch focused on street analysis and runs the fifth year humanities dissertation and third year history and theory module.

From the built architecture to the design of the interface of Blender 3D

When the architectural result modifies the tool thar generated it

Vita, Gianluca Emilio Ennio[1]
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Synopsis

This research is focused on the interaction between the tools we use for architectural design and design itself and how this relation can produce new forms in architecture. At the same time, this built architectures, which are generated with software that was not designed for this architectural purposes, or rather, its users, are activating a new research in of in terms of improving and adapting the interface of these software to their use in a in an easier and more intuitive way for architects.

Key words: Parametric architecture, blender, user interface, design.

If it is true that "Media is the message" as Marshal Mc Luhan[1] claimed at the dawn of the digital age, it is also true that the tools we use are a fundamental part of the Architecture. The project comes from the interaction between our mind and the tools we utilize.

We can say with absolute certainty that the transition from traditional tools to its analogue digital ones has radically changed the architecture design. Our purpose is to try to understand how this happened and make some hypotheses about what we can expect for the future and how it can change the tools itself, and the way we interact, the interface.

The fundamental and paradigmatic difference between traditional analogue and contemporary digital instruments lies in the fact that today we have the possibility to use tools able to manipulate time.

The transition from the paper to the screen, at first, has changed considerably the way we work, but very little the way we think. This is because all the interfaces of digital drawing software were born with the precise intent of imitating the operational processes of the manual design on screen.

The real paradigm shift has occurred with the development of so-called parametric systems, which make it possible to go back and forth over time in a complex way. It is no longer only possible to draw and delete, but it was possible to manipulate the form in space and time.

This fact is comparable to that represented, for example, by the invention of the mechanical clock, the printed book or the perspective representation.

Mario Carpo[2], situates this origin in "some" moment of the beginning of the 90s, when the digital design and industrial production tools began to inspire new theories on design and the architects and theorists began to think that we could design and build something in unprecedented form[3].

The theoretician of software history, Lev Manovich, points out in his book *Software takes command that working with 3D* animation software has conditioned the architectural imagination from both a metaphorical and a literal point of view[4].

Project presentations and architectural research have begun to include variables generated with parametric software such as the pioneer Gregg Lynn's project for the New York Metropolitan Transportation Authority building (1994), generated from a cloud of points that are moved into space. Lynn has captured these movements and turned them into curves that make up his building proposal.

This project did not win the competition in which was taking part, but, as noted on the architect's webpage[5], was "the first architectural project in history to use animation software to generate a form. A series of 'forces' representing traffic and pedestrian flow were modeled using the "Wavefront" software.

[1] Mc LUHAN, Marshall, 1964. Understanding the media: The Extensions of Man Berkley (USA): Gingko Press. ISBN 1-58423-073-8

[2] CARPO, Mario, 2009. La desaparición de los idénticos La estandarización arquitectónica en la era de la reproductibilidad digital" in La digitalización toma el mando. Barcelona: Gustavo Gili, p. 59-67. ISBN 978 84 252 2275 7

[3] *Ibidem*

[4] MANOVICH Lev, 2013, El software toma el mando [Software takes comand]. Barcelona: UOC. ISBN 9788490298633.

[5] GREG LYNN, 2018. GLFORM [online]. glform [accessed 20 february 2018] Retrieved from: http://glform.com/

Equally important was the exposure of architects to the new generation of modeling tools for commercial animation software in the 1990s. For twenty years, the main 3D modeling technique was to represent an object as a set of flat polygons. But in the mid-nineties, thanks to faster computer processing speeds and increased memory size, it was possible to offer another technique on desktop workstations: spline modeling.

This new technique of representation of form shifted architectural thinking away from modernist rectangular geometry and brought it closer to smooth and complex shapes elaborated by continuous curves.

Therefore, from the second half of the Nineties, the so-called BLOB aesthetics came to dominate the thinking of many architecture students, young architects and even some recognized "star" professionals such as Zaha Hadid, Eric Moss or UNStudio.

This was the consequence of moving from computer-aided CAD design software standards (such as AutoCAD) to software born for animation and special effects.

Traditionally, architects have created new projects starting from an existing type. A church, a private house or a railway station follow known typologies: spatial models that determined the layout of the space. Similarly, when designing the concrete details of a project, the architect has always chosen between different standard elements with known functions and shapes: columns, doors, windows, etc. In the twentieth century, mass-produced dwellings did nothing but accept this logic, which was eventually coded in the interfaces of CAD software and more recently in BIM software.

When Gregg Lynn, the company Asymptote, Lars Spuybroek and other young architects, started using 3D software in the early 1990s designed for other industries (computer animation, special effects, computer games and industrial design), he discovered that CAD programs for architects assumed that the basic components of a structure were rectangular shapes: but the 3D animation software did not start from the same assumptions. (In fact, splines were first introduced in computer graphics in 1962 by Pierre Bézier for use in computerized car design).

The exhibition held at the Pompidou Center in 2004 Non-Standard Architectures, which presented the work of 12 international teams of architects who had developed their research into the application of digital tools for the design of architectural elements, represent a milestone of this research. This exhibition allowed to measure the social, economic and political changes caused by the widespread implementation of non-standard production of architecture, design and urban territorial policies[6].

It was not just a question of digital architecture or an exhibition of "virtual" architects concerned primarily with issues of representation (virtuality, hyperspace). The widespread use of applications based on algorithms involves transformations of design and production tools. A "non-standardized" architecture is a reflection on the language of this discipline and on its scope from the exploration of digital

[6] MIGAYROU, Fréderic, 2003. Architectures non standard. Paris: Editions du Centre Pompidou. ISBN 2844262317

elements.

Following these arguments, we set ourselves the goal of hypothesizing future scenarios in the field of architectural projects with the use of software. To do this we will analyze the interaction process of Blender digital modeling software. This software rather than a drawing tool represents a further important step in the evolution of digital thought. This is not a paradigm shift, compared to the software of the early 90s, but an evolution of extraordinary importance. It represents a "suite" created to realize animation projects, that has the potential for a new kind of invention and manipulation of the space and the shapes of the architecture. The most interesting thing is the coexistence of different ways of manipulating objects. Some classics in architectural modeling such as Mesh and Nurbs, others closer to the world of animation such as Sculpting and Pencil. The fact that Blender is Open Source also makes it open to new yet unpredictable additions. But for that scope, as we have discused several times in its annual covention “Blender Conference”[7] its interface should be simplified and adapted to the architectural use.

Finally, it is important to underline how this process of evolution and re-search in the field of computer generated architecture proceeds in both directions. The tools of digital processing influence, as mentioned, the shape of the architecture. But loathing happens to the instruments themselves. They are in fact in turn modified and deeply influenced by the evolution of the architectural trend that they themselves contribute to develop and to modify their interface.

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Biography

Gianluca Emilio Ennio Vita. Architect specialized in architectural representation and communication and its relationship with the design of the project. He has developeda detailed knowledge of classical and digital representation. He has used and taught, both academic and professional field, a wide range of software for digital representation and parametric modelling, his research is focused on the theoretical aspect of the use of computer media as a tool for designing. He teachs computer graphics both in the Politecnico di Milano and in the Accademia di Belle Arti di Brera.

Architecture and Vacancy

Empirical maps to read economic phenomena in contemporary cities

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Synopsis

The city evolves thanks to many forces, leading it to morphological modifications in the urban structure. These phenomena deposit signs, not always easily traceable. The presence of vacancy within the urban fabric is one of these. The distribution of vacant units, could be a useful indicator to comprehend economic conditions and territorial practices in a city system. The growing attention on data visualization and big data mapping to describe its evolution is giving us many possibilities in terms of dynamism and layering. The new technological possibilities, the mapping's tradition, typical of urban form, and the elasticity of architecture can improve the categories used in urban economics subjects, being helpful in better understand a so complex phenomenon.

Key words: Vacancy, Mapping, Urban Economics.

1. Mapping Urban Economics Phenomena

The city experienced different phenomena and it is the result of different addictions and modifications. This overlapping of signs is the result of the changing in living habits of a specific population but also of the economic transitions. Indeed the urban tissue is able to record several factors changing the shape of the space.

To understand and study these transitions the mapping provides information about the tangible results of the social and economic forces (Vernez Moudon; 1997). The continuous traceability of the maps helps in describing the changes in urban form and its evolution. Economic and political cycles are, indeed, particularly influent on the city and were transversally mapped in many morphological types of research (Conzen; 1969) without the support of specific datasets. On the other hand, the growing attention on big data and open source statistics, have given us additional possibilities in term of mapping the relationship between the building, the use and its relation with the context. Since the '80 the role of the map in architecture and urban planning has changed and the Space Syntax experience, since the first Hiller's studies to now, describes it well. In addition, recent researches used data or images from the web to analyze and suggest new aggregation in the urban fabric according to clustering methods applied to amenities distribution (Hidalgo; 2015). Furthermore, geomorphological and statistic data were used to study specific urban matters as Chinese ghost towns: Xiaobin et al. (2017) created maps using mainly DMSP-OLS night-time light image data and Guanghua et al. (2015) used Baidu positioned data and POI to highlight the home location of a number of users[1] and describe the vacant parts of the city. Despite the enormous possibilities given by big data, not all the phenomena can be described with this type of maps. As a matter of fact, it is not always possible to obtain certain data, useful to analyze a specific phenomenon, because of privacy's policy, already combined information[2], national regulation.

2. Observing a specific phenomena: the vacancy

The vacancy is economic phenomena that have a significant influence in contemporary cities. It has a relevant significance in Europe as well as in America or Asia. In China, in particular, it has a great consistency: Gleaser (2017), has estimated that the quantity of empty houses, including those built and those sold but remained uninhabited, is around 1.86 billion square meters. Credit Suisse, using data from the Shanghai University, speaks of 49 million houses, equivalent to 22% of vacancy[3] (Shepard; 2015). This data assumes a further importance thinking that in Chinese economic system, construction is one of the driving sectors.

With the term vacancy, the economic discipline traditionally refers to a part of built space, inside the market, that is unallocated or unrented at any given time. It is

[1] DBSCAN algorithm based on users position from 9.00 am to 6.00 pm. This system uses a density-based spatial clustering system

[2] very often data are already aggregate to support a specific point of view, in this form it is impossible to be used as single information and obtain a different visualization

[3] the "normal" vacancy rate cannot be a global index, it needs to be evaluated per country in relation with the local market and dynamics, anyhow even in Chinese context this percentage it is considered worrying (See Haizhou Huang "Discussion on China's Housing Market: What we know? What we don't" for International Symposium on Housing and Financial Stability in China, Shenzhen December 2015

normally defined through a percentage that can be used to investigate the residential or commercial sector as an indicator to understand the trend of the market in a particular city or portion of it. The economical bibliography offers a genealogy of the topic useful to understand its definition and composition (Frank S. Kristof; 1965, White; 1970, Rosen and Smith; 1983, Gabriel and Nothaft; 1988). Recent works are able to highlight the complexity of it demonstrating a relation with social and cultural factors (Keenan et al.; 1999, Granadier; 1995, Hoekstra and Vakili-Zad; 2009, Cheshire et al.; 2015).

Moreover there is also a spatial and environmental implication attested by several recent studies that, in some way consider the vacancy as the reason or result for other urban phenomena: the New Town (Bonino, 2017), the Ghost cities (Shepard, 2015) and the Megacities (Berg et al., 2014). The topic was also studied in relation to the "shrinkage" of the cities, due mostly to the depopulation (Couch et Cocks 2013)[4]. However, it is in relation to the building speculation that the effects of the vacancy have had a greater spatial relevance (Marcinkoski 2015). Anyhow the privileged observation point is always the economic one. Instead, trying to observe the presence of unallocated spaces within the urban fabric, the results are sometimes different from those obtained using real estate or property data. This gap suggests, especially in some contexts, do not forget the contribution of information that space itself can offer.

3. Case study and possible methodology

In the specific case of the vacancy in the Chinese context, collect direct data as energy and gas consumption per unit, mail delivery flow, use of internet services[5]. Because of that an indirect methodology, based on field observation and mapping, might be useful.

A first trial has been conducted in a Nanjing's district, LaoMen Dong in the south part of the city where a recent renovation plan (2013) realized 80 urban villas in Ming traditional style. On field observation disclose the presence of high vacancy in contrast with the data that show a complete allocation of the units (Fig. 1-2-3).

To confirm the presence of residents the first example of a map has been the identification of air conditioning units[6] on the roof of the building (Fig. 4) compared with the previous observation.

This work has allowed the identification of a 'use component' of the vacancy not recognizable with other data collected through public resources or private agencies.

[4] In this case, the phenomenon was observed in the city of Liverpool identifying, among the determinants of the vacancy, the contraction of the industrial system

[5] These are some of the possible data that can be used to analyze straightly the vacancy and eventually create a map of it

[6] An element that is not only recognizable but also always present in Chinese commodity and luxury houses

Figure 1. Position of houses in LaoMen Dong.

Figure 2. Allocated Unit in Yellow based on data.

Figure 3. Vacant Unit, in blue based on field observation.

Figure 4. Identification of roof air conditioning.

4. Conclusions

Space still offers information not always recognized by official data. For example in some Chinese districts the public data, as well the real estate market news, describe portions of the territory sold out even in the presence of completely unused residential complexes. The reasons for this discrepancy are different but what is really interesting, in this context, is the recognizing of the need of a direct cognitive approach, based on the recognition of some presences and recurrences.

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Biography

Elena Pressacco. PhD student in Architecture History and Project in Politecnico of Turin. Her interdisciplinary research deal with Urban Morphology and Urban Economics with a specific focus on vacancy and real estate bubble in post-socialist countries. During the last year, she had the possibility to develop her research also at Tsinghua University (Beijing) and Southeast University (Nanjing) as visiting Ph.D. Her parallel research interests are Industrial Heritage, Digital Fabrication, and Contemporary typo-Morphological analysis.

A Way Of Looking At The Big Picture:

Material Perspectives In Architecture

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Key words: New materialism, diagram, immanence, trans-disciplinarity, complexity.

> "You don't understand anything until you learn it more than one way." Marvin Minsky (Cognitive Scientist).

Good architects have to be good thinkers. Thinkers/scientists that we appreciate are interested in more than one field of knowledge. They are not limited in a single discipline constructing their points of view by contributions of multiple fields. To name a few: Marvin Minsky, Alan Turing, Manuel de Landa, Sanford Kwinter...

Even the disciplinary field names themselves refer to many different themes which appear to be related to many other fields in a multidisciplinary approach. eg. Geography's subthemes are listed as location, place, human-environment interaction, region and movement. Let's take movement as a 'geographic' theme, movement theme refers to the movement of people, living things, goods, even ideas. It will even include migration studies. It is almost impossible to comprehend some 'real world' complexities, shortly complex bodies through one single discipline or scientific field. We need to adopt an integrated, multi-disciplinary approach to grasp these bodies through bigger windows.

While a single discipline opens up a single way of looking at a subject, to achieve a multi layered standpoint, we need to understand it again and again through different windows. Complex bodies are considered as complex structures or systems such as cities, living organisms, clusters of organic or inorganic beings. They are arranged by regular or irregular, ordered or disordered structures. They are in a constant process of change during the course of time, either very slow or very fast. As we understand, there are no simple objects in the whole universe, either natural or manmade. Simple/single objects can only exist in theory. They can be imagined through absraction and by isolating and eliminating issues that accompany them. Everything exists in a flow: Things move, change, grow, interact, age, decay and transform. Even the inorganic matter... it is impossible to picture or simulate their entire process.

Referring to Deleuze and Guattari for the concept of 'immanence', we can say that there are qualities immanent to all of these things/bodies, which accomodate a knowledge of actualization, which define and organize them. These immanent qualities are carried potentially within the matter and they let some unexpected or expected actualizations to emerge in their lifetime. This immanence can be considered as the integrity of matter and knowledge, like in the relationship of proteins and dna. The knowledge that is immanent to matter defines an occurance, an emergence, and a process of realization. It decides its transformation, realization, its evolution, even the matter never exactly disappears, it implies also its dissolution into particles and scattering into the universe. In this way, immanence and emergence define how matter actualizes, its generative qualities and outcomes. The matter -organic or inorganic, complex or (relatively) simple, biological or geographical- starts to transform in the course of time. It carries on its own historical process by different external and internal forces acting on it within a field, it establishes interactions and changes everlastingly.

It is also very necessary to model and represent this immanence in architecture, and other fields. Diagram is a key concept in representation when we approach these fields in a materalistic perspective. The term Diagram prescribes a

non-symbolic kind of representation, which emphasizes the qualities of becoming and change. It enables architects, designers, or other thinkers to provide a contingent attitude to their subjects.

In this case, referring to the concept of 'new materalism', looking at things in a materialistic perspective -as argued until now- carry us to a trans-disciplinary understanding. Either we are architects, designers, scientists, or thinkers, it connects us to other fields while the common ground for each field is a prosperous field of actualizations, matter and forces. In this perspective, this material field and the diagrams representing it could incorporate any pluralities. They can include all the processes, possible interactions, occurances, effects, forces, and vectors acting on that matter. Trying to represent these complex beings in their virtual/actual conditions and in their potentiality, requires us to seek new ways of representing and visualizing the data. We can also admit that complexity is self potentiating: They generate their own meaning for us to interpret them. Complex bodies, real world phenomenon likely include much more than we are able to conceive. Trans-disciplinarity is admitted as a cure to humanize deter-minism in sciences whether they are positive sciences, humanities or earth sciences. It is possibly the cure for a single disciplinar mentality trapped into its own limits.

As architects, we are still hopeful for our own field and its potential relatives to create new connections in addition to existing ones, and make fresh initiations to deal with our subjects more comprehensively.

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Biography

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The beguinages: Cities within cities

Analysis of other hybrid types in the medieval city

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Synopsis

This research explores domesticity in beguinages, these architectural organisations can be analysed as different medieval hybrid types, even more, as cities in their own right as well as cities within others. They emerged in the European medieval cities in the thirteenth century, and were inhabited by the beguines for almost eight centuries. This research aims to move forward towards a more architectural and gender perspective here by retrieving, revising and relating the work done by other investigators. This paper shows that it is possible to find in the past, the emergence of these new individuals (women) that break with the way of life based on the nuclear family and that have the will to transform the spatial conditions they inhabit, the house and the city that they have inherited. So that, this research intends to demonstrate how women were effective and the fact that this human-space relationship occurred with a gender perspective. Two issues are analysed, which reinforced each other: the changes they made in the spatial properties of the places they lived in and the multiple-uses that were in the beguinages, so these complexes served the needs of the larger community. Some of the architectural strategies employed in the beguinages that are recaptured and described here, contribute to enable us to better understand the complex genealogy of domesticity and must be incorporated in the historiography of the house and the western world, so that it is not only construed from the masculine experience. This research shows how women updated the existing domesticity by means of the beguinages, construed as cities within cities, as are heterotopias, in the Middle Ages. The work intends to value its usefulness by perceiving the past as it is, an immense ocean of knowledge weighed against the illusion of progress that ignores that which preceded it.

Key words: City, domesticity, intimacy, gender, Middle Ages.

1. Introduction

The beguine communities started to develop in numerous cities during the thirteenth century in the region of Lage Landen or Le Pays-Bas, which is now occupied by the present countries: Belgium, Holland and Luxemburg, areas of the north of France and western Germany. The main cause of their emergence, as explained by Sarah Joan Moran in '*Unconventional Women: Religion, Politics, and Image in the Court Beguinages 1585-1713'*, was the development of the cities in the High Middle Ages which encouraged many women to migrate to them in search of work.

During the first decades of its existence, between 1230-60, the number of inhabitants of these communities rose to hundreds, in some cases they reached a thousand. This was a contrasting figure when compared to the monasteries and convents at the time, which was much lower, as noted by Walter P. Simons in '*Cities of Ladies: Beguine Communities in the Medieval Low Countries*', 1200-1560. Unlike these other communities, the beguines were accessible to many women as they allowed property ownership rights and the right to work for self-finance.

2. The beguinages: Cities within cities

The beguinage, begijnhof or béguinage, in Dutch and French, is the architectural complex which was inhabited by communities of beguines. Although the first were built outside the cities and within their own walls for protection, as Olijslager describes in '*The Groot Begijnhof of Leuven'*, that a short time later they started to settle on the inside, or as the city expanded they ended up being within the city walls. For this reason, the beguinages can be analysed from their origin as architectural complexes that emerged within the medieval cities, even more, this human-space relationship occurred with a gender perspective.

Although these beguine communities disappeared by the end of the twentieth century, from the three hundred beguinages that were accounted for in 1566, many still remain. The beguinages were inhabited by women for almost eight centuries. Ernest W. McDonnell explains in '*The Beguines and Beghards in Medieval Culture*', that they were formed without central coordination or a sole founder and that many were inter-connected through medieval pathways. This research aims to move forward towards a more architectural and gender perspective here by retrieving, revising and relating the work done by other investigators.

Therefore, this paper intends to show how women were effective in the transformation of the house and the city they had inherited through two reflections that reinforce each other. On the one hand, by analysing the changes they made in the spatial properties of the places they lived in; on the other hand, evidencing the benefits and challenges of sharing space by means of the multiple-uses that were in the beguinages, so these complexes served the needs of the larger community. The hypothesis is that beguinages emerged as cities in their own right as well as cities within others.

3. The domesticity within the beguinages: Other medieval hybrid types

The beguinages were very heterogeneous in their formal configuration, but they had in common diverse mechanisms of setting up and so it is possible to identify the following organisations:

3.1. City Transformation Type 1:

Organised houses around a large central square or garden, with the facade facing the city, being the rear wall. The beguinage in Amsterdam founded in 1345 is an example of this configuration (Fig. 1-2-3).

In the engraving of the city of Amsterdam from 1572 (Fig. 1, zoom) one can see the beguinage architectural complex in relation to the city. The reversal of the access to the houses was the main feature that allowed the complex as a whole, to be used from its interior.

Another engraving of the beguinage from 1544 shortly before (Fig. 3), shows an isolated beguinage. In it, the city from which it was formed is hidden, but the doors of the traditional houses can be seen and although they are not accessible, its condition of a city within a city prevails.



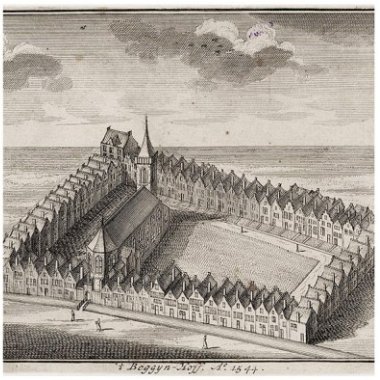

Figure 1. Figure 2. Figure 3.

3.2. City Transformation T. 2:

Houses arranged along streets within a separate walled area. Examples of these are the beguinage in Brussels founded in the thirteenth century (Fig.4-5), or the one in Ghent founded in 1271 (Fig. 6-7).


Figure 4. Figure 5.

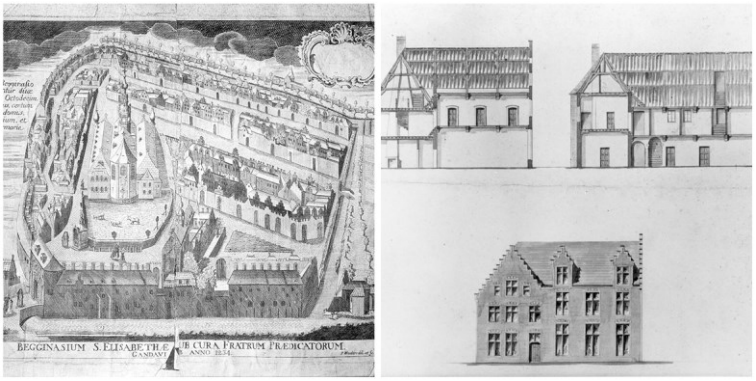

Figure 6. Figure 7.

In the engraving of Ghent, one can see that the access door to the interior of the beguinage is open and inside there are beguines and laypeople. Even though the beguinage was constituted as a city within another, it was not always closed shut.

The beguinages transformed the conditions of use of the courtyards and created an interiority meaning, the space of intimacy extended from the house to the city, the space to which all other inhabitants had access to.

3.3. City Transformation T. 3:

As a counterpoint, it is interesting to analyse the configuration of those smaller scaled beguinages that were reproduced and multiplied in the same city.

For example in Cambrai after the disappearance of the first beguinage, that of Sainte Ursule founded in 1239, up to six beguinages were founded and dispersed throughout the city. The one shown here is the beguinage of Saint Vaast, founded in 1545 (Fig. 8-9-10).

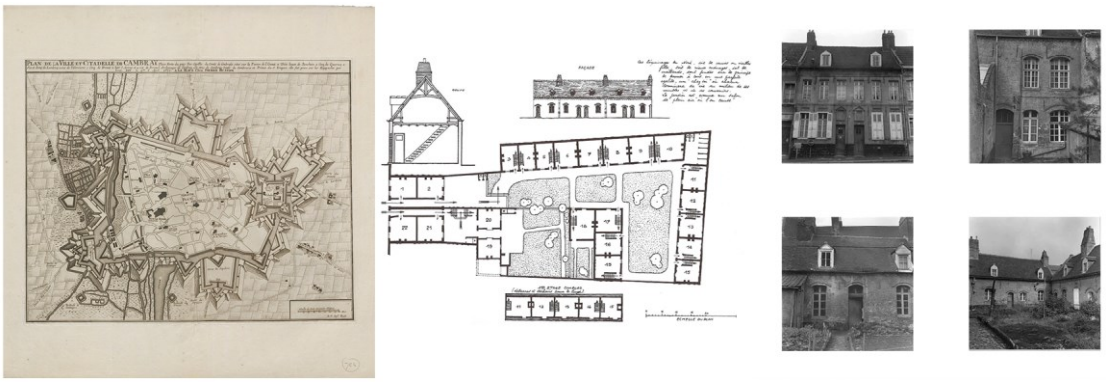

Figure 8. Figure 9. Figure 10.

These classifications show the diverse configuration modes of the beguinages and the fact that all of them started from an inherited city. The traditional house type is the basis or structure from which the beguinage is defined, thereby maintaining the city's traditional relationship between house and city. It is therefore possible to find in them the capacity of the 'type' and its combination to form multiple developments from topological considerations, hence its particular

heterogeneity and mutability.

4. Gender and domesticity in the Middle Ages

The beguinages, like the monasteries and the convents, can be considered as diverse types of medieval hybrids; nevertheless, the beguinages clearly constitute a different model: carried out by secular women and configured from the existing city — the vernacular dwellings—. This analysis raises fundamental questions on projectual methodological issues about type and topological considerations in the consolidated city before Modernity, aside from reductionist visions.

Notion of 'type', which has been so used and abused, regains, its definition as "structure of the form which is capable of multiple developments, not only as a mere mechanism of reproduction"[1] that Rafael Moneo develops in '*On Typology'*. This definition is closer to that which Quatremère de Quincy gave in the second half of the eighteenth century in the *'Dictionnaire historique d'architecture'*, than the redefinitions that are the abusive result made from research and residential production of the modern culture.

This extract shows two main configuration modes of the beguinages in the medieval cities of Amsterdam and Brussels; with these, one can see the variety of compositions that could be adopted within their perimeters. Sarah Joan Moran, in '*On Locked Doors and Open Windows*,' explains that the houses that constituted the beguinages go from beguines to laypeople and vice versa with apparent ease. The beguines bought adjacent houses or sold them according to their funds.

The mixed-use spaces within these architectural complexes together with the opening of them to the other citizens were justified by the need to support themselves economically. As specialist researchers have demonstrated, the beguines worked washing, cooking, grinding, making beer, textiles, laundering, amongst others. Moreover, as Daphne Spain explains in '*The Importance of Gendered Spaces for the Public Realm*,' they achieved public importance by caring for the sick, the elderly and the poor, and contributing on the education of the women.

All these aspects give rise to the radical singularity of the domesticity of the beguinages, which is that they were constitutes as unfinished architectural complexes that could vary by growing or reducing in size. In them, the location of the majority of the elements was circumstantial, versatile and flexible and therefore in their configuration, far from following a strict pattern of functional organisation, they took into account other topological variables. Some of these issues point out the virtues and shortcoming of past and current domesticity.

The beguinages can actually be useful to have a more in-depth knowledge about the relationship between domesticity and gender, "*what has been*."[2] They

[1] MONEO, Rafael, 1978. "On Typology," Oppositions, no. 1, p. 188-211.

[2] BENJAMIN, Walter, 1999. "N: On the Theory of Knowledge, Theory of Progress," *The Arcades Project*. Cambridge: Harvard Univ. Press, p.462. "It's not that what is past casts its light on what is present, or what is present its light on what is past; rather, image is that wherein *what has been* comes together in a flash with the now to form a constellation." [Awakening. N2a,3]

should be included in the historiography of the house in western culture, to enable a deeper understanding of the complex genealogy of domesticity, so that it is not only construed from the masculine experience. In conclusion, it has been possible to show how women updated the existing domesticity by means of the beguinages, construed as cities within cities, as are heterotopias, in the Middle Ages.

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Biography

Elena Martinez-Millana. Studied architecture at the Polytechnic University of Valencia, Spain, and l'École d'Architecture Paris-Malaquais, France (2013). She has collaborated in architectural offices such as UAPS, Paris and OAB, Catalonia. She has a Master in Advanced Architectural Design from the Polytechnic University of Madrid (2015), and is PhD Fellow in the Architectural Design Department, Collective Housing Research Group (GIVCO) —supported by European Social Fund and the Community of Madrid—. Her doctoral thesis is "Disassembling Domesticity: Habiting Heterotopias" under Andrés Cánovas. She has participated in conferences: "Le Corbusier, 50 years after, International Congress" (2015), "IV Workshop on Educational Innovation in Architecture (JIDA)" (2016), "III International Conference on Gender and Architecture (MORE)", "I International Conference in Architectural Communication (COCA)", "I International Congress on Architecture Doctorates (IDA)" (2017), "III International Conference on Architectural Design & Criticism (Critic|all)" (2018), amongst others. Her doctoral thesis has been selected for the Spanish Pavilion at the Venice Architecture Biennale (2018).

NAC*: A new regional structure

*Neo-tertiary Airport Cluster

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Synopsis

In the contemporary territorial context, infrastructural networks of mobility have changed social behaviours and urban structures in a relevant way. Air mobility, along with airport infrastructure, is key in the positioning of city-regions in the global network. In the last decades the airport has become an urban element capable of structuring the city-region on a local scale.
This research tries to determine the key aspects of this infrastructure and its surrounding territory based on the analysis of case studies located in different contexts (geographical, territorial-urban and socioeconomic). This study brings to light the importance and capacity an airport can have not only in the positioning of the region on a global level but also in the implementation of its local structure.
Moreover, these case studies underscored the qualities that can be implemented in the territory surrounding the airport with the aim of encouraging its evolution towards a cluster. Consequently, the infrastructure acquires the implicit qualities of an urban entity identified as an NAC (Neo-tertiary Airport Cluster).

Key words: City-region, airport, cluster, neo-tertiary, glocal.

1. Introduction

This extended abstract is part of a research at a global scale about the territorial tendencies that take place in certain city-regions connected to airport hubs (NACs).

In the urban context, (physical or digital) **infrastructures**[1] acquire a crucial relevance when it comes to structuring a territory. Currently, the scope of action of infrastructures in the socio-economic development of a territory is moving towards a regional scale. **The city-region is situated as the main territorial scale in the management of globalisation**. It can be considered the point of confluence where the laws of globalisation are intermixed with local realities.[2]

In this contemporary context, inhabited by the information society[3], **airports** play an essential role since they have acquired new functions beyond the transport infrastructure. New airport-associated functional programmes have consequences for the architecture of **airports** themselves and **the territory that surrounds them**, and come to create **new territorial structures**.

To understand the current state, the research **retroactively analyse** the processes that conditioned the territorial fragment connected to the airport. A key question is **the exploration of the potentialities of the new territorial structure linked to the new airport model** that is capable of assuming and profiting territorially from the great socio-economic potential that a high concentration offers. Additionally, the research studies the importance of the specific **local context** in the final development and future consolidation of these new territorial structures.

2. Methodology of a retroactive analysis

Figure 1. Case studies. Developed by the author.

[1] Manuel Castells, *La era de la información: economía, sociedad y cultura I, La sociedad red* (Barcelona: Alianza Editorial, 2008).

[2] Richard Forman, *Urban Regions. Ecology and Planning Beyond the City*, 1st ed. (United Kingdom: Cambridge University Press, 2008); John Friedmann, 'Intercity Networks in a Globalizing Era', in *Global City-Regions, Trends, Theory, Policy*, ed. Allen Scott (Oxford University Press, 2001), 119–38; Richard Child Hill and June Woo Kim, 'Global Cities and Development States: New York, Tokyo and Seoul', *Urban Studies* 37, no. 12 (2000): 2167–95; Michael Storper, 'Regional Economies as Relational Assets', *Revue d' Economie Regional et Urbaine*, 1996, 655–72.

[3] Manuel Castells, *La Sociedad Red : Una Visión Global* (Alianza Editorial, 2006).

A review of the **territory surrounding** the airport is carried out from various disciplinary perspectives identifying the most relevant transformations made in each historic period.

The research examines the processes of European city-region contexts in comparison with the different realities worldwide (Fig.1). **Case studies** (Barcelona, Amsterdam, Zurich, Frankfurt; Dubai, Singapore, Kansai, Incheon, Dallas-Fort Worth, Memphis) have been chosen that show different situations from urban, geographical, social, economic, political, dimensional and functional points of view.

The retroactive vision is developed through two strategies. Firstly, a regional territorial analysis of different scales of the urban processes and developments is carried out. The territory, urban systems, communication infrastructure, geographical features are **drawn** and represented with the same parameters and criteria (Fig.2,3,4). Secondly, there is an observation to the territory through a management of **statistical data** and how it implies transformations in the infrastructure itself and the nearby land. The territorial structures are analysed studying the same parameters in each case and generating a comparative study that then links them all.

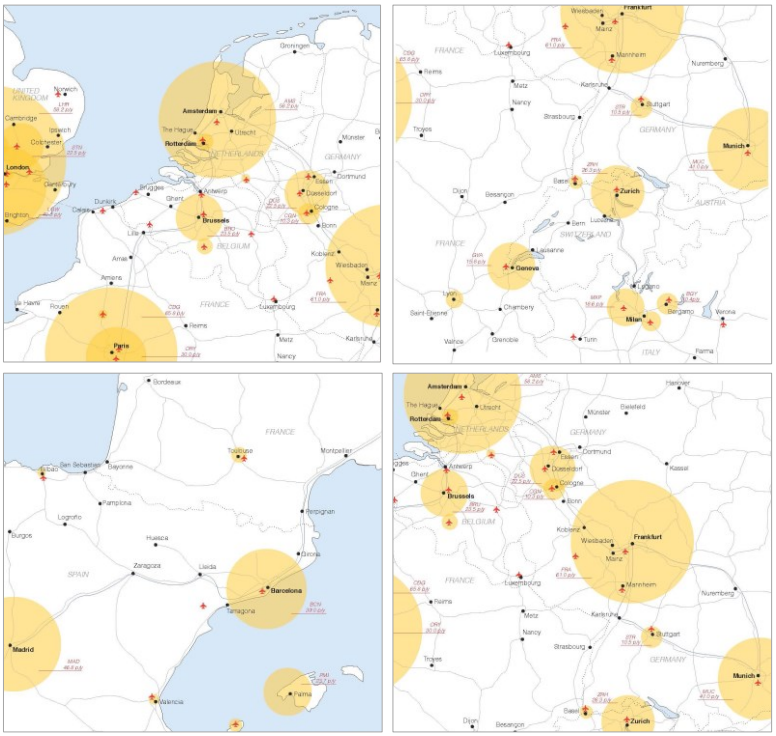

Figure 2. City-Regions, major airports. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.

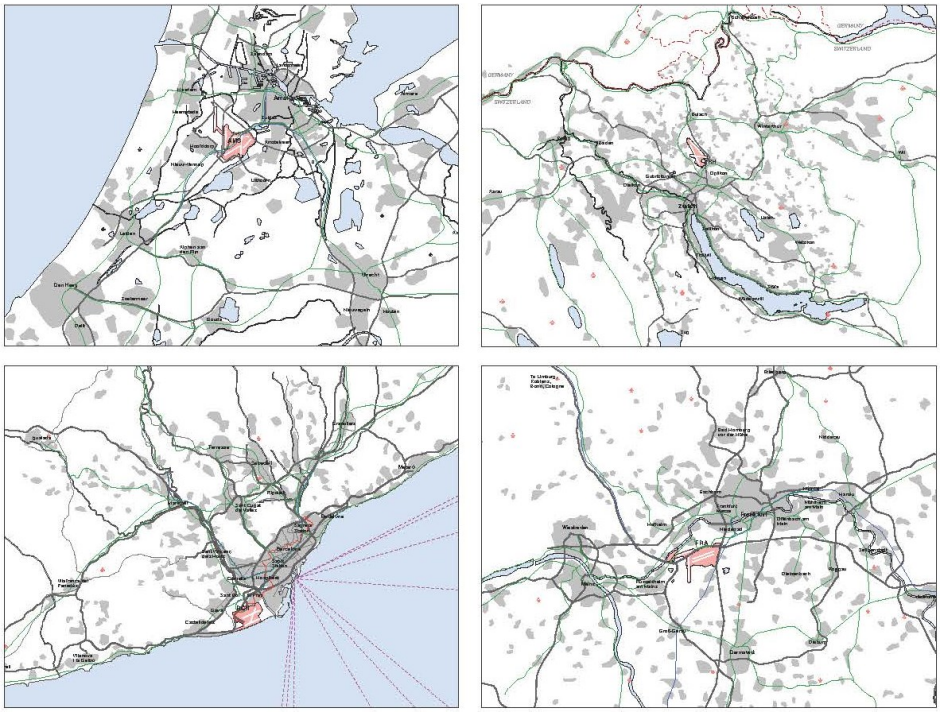

Figure 3. Airport and surroundings' connectivity. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.

Figure 4. Programmes in the airport neighbouring territory. Case studies: Amsterdam, Zurich, Barcelona, and Frankfurt. Developed by the author.

3. Contemporary evolutionary tendency

Through the analyses, it is detected an evolutionary tendency of the airport and the neighbouring territory. Case studies share a similar evolutionary pattern however they show different current states within the global tendency.

Fundamentally, the transformation phases are conditioned by the consolidation of tertiary activities linked to the functioning of the infrastructure, such as the consolidation of great flows, the behaviour as regional centralities and the influence in the local economy and urban structure.

The findings allow intervening in the regional area connected to a major airport looking for a solution to contemporary and future issues. Additionally the research highlights the role and potentialities of the **local context** in addressing these issues.

The research identifies the territorial structure of the **NAC** as the consolidation of this evolutionary pattern and its final state because the close collaboration and the synergetic behaviour of the infrastructure and the adjacent territory.

4. NAC (Neo-tertiary Airport Cluster)

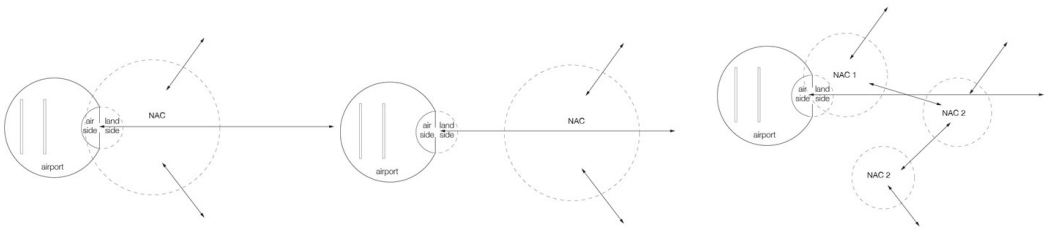

Figure 5. NACs' configuration. Developed by the author.

From the beginning of the modern-industrial period, the interaction between territory and economic activity has been demonstrated through **new types of settlements** in the form of industrial clusters[4]. Modern theories on centrality promote these proposals, as well as the verification of their advantages resulting from the interaction between various industrial processes that were carried out in physical proximity.[5]

The NAC arises precisely as a **complex urban structure** adjoining an Airport (Fig. 5), with the potential and complexity to improve the efficiency of the airport system and the city-region's urban and socio-economic template. In this sense, the following concepts synthesise the basic points for the conceptualisation and implementation of an NAC and define its **territorial capacities at a regional level**.

[4] Giacomo Becattini, *Il Distretto Industriale* (Torino: Rosenberg & Sellier, 2000).

[5] Bruce Katz and Jennifer Bradley, *The Metropolitan Revolution. How Cities and Metros Are Fixing Our Broken Politics and Fragile Economy*, (Washington: The Bookings Institution, 2013); Michael E. Porter, 'The Economic Performance of Regions', *Regional Studies* 37, no. 6–7 (2003): 549–78; Michael Storper, *Keys to the City: How Economics, Institutions, Social Interaction, and Politics Shape Development* (Princeton: Princeton University Press, 2013).

- ***NAC's urban nature*** *is not exclusively the consequence of the evolution of an airport. The NAC is a new type of urban organisation and it is designed intentionally to reinforce regional efficiency. The NAC takes advantage of the build up of strong flows generated by the airport hub and the new territorial isotropy driven by new technologies and globalisation.*

- ***The NAC is a programmatically complex and functionally hybrid cluster.*** *It contains neo-tertiary and service programmes but also can include residential structures. This configuration would have the objective of balancing the proportion of jobs and the ideal number of possible "residents"*[6]*.*

- ***NAC's connectivity and mobility*** *have strong regional connections with direct access from various regional centres and also access via the adjoining airport hub.*

- ***NAC's critical mass and dimensional scale*** *should be optimised in relation to other clusters and sub-centres that make up the regional archipelago.*

- ***NAC's*** *optimum* ***density*** *tends to be high and suitable for the generation of a morphologically* ***compact*** *cluster, in agreement with its free type of structure.*

- *The* ***NAC*** *tends to configure itself as a* ***new regional centrality****. Although its origin lies in taking advantage of large flows created by the adjoining airport, the NAC has a critical mass and a sufficient complexity to operate independently.*

- ***NAC's design and construction*** *should be capable of guaranteeing a high* ***metabolic efficiency****.*

- *Airport-NAC interaction can be an opportune territorial instrument for the* ***activation of an unpopulated region*** *with low employment.*

- *Airport-NAC interaction should become an appropriate territorial instrument to* ***improve urban resilience****.*

- ***NAC's architecture*** *should operate as a nexus between the* ***expected iconicity*** *of the Airport, its* ***own local identity*** *and the* ***local context*** *of the region in which it is developed.*

It is important to underscore that the points listed above are not apparent in the same way or to the same level of intensity in each case study scenario. Even though case studies follow a trend towards developing a common tendency, the configuration of an NAC is clearly influenced by the characteristics of the **local-regional context**.

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Biography

Nuria Casais. Ph.D. architect and urbanist involved in practice, research and teaching. She is specialist in territorial and regional strategies, urban design and architecture. She taught and researched in different institutions such as the Academy of Architecture of Mendrisio (CH), Politecnico di Milano (IT), Barcelona Institute of Architecture (ES), i2a-International Institute of Architecture (CH) and currently at ESDesign (ES). Since 2015 she is based in Barcelona developing architectural and urban projects and research in collaboration with Ferran Grau (GrauCasais Architecture). Their projects were awarded in several competitions, including the XIV BEAU. Recently, she became the co-director of the number 273 of the architectural magazine Quaderns.

Rivers, continuities and discontinuities

The case study of the Darro in Granada and the Tiber in Rome

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Synopsis

In the past the liaison between the cities and the watercourses they were founded on was mandatory. Nowadays with the expansion, overpopulation and soil consumption of the cities, this link has been lost. Watercourses are presented mainly in two ways within the urban fabric, a void acting as division but creating a common identity, or with a complete removal of the river's course, leaving only the suggestion to deal with the memory. The study aims to address two different situations in which the river becomes an element that does not increase the value of the urban fabric but decreases it. The first case is the one of Darro (a river buried underground to favor urban development) in the city of Granada, the second of the Tiber (a river which is not connected to the city) in Rome. The research seeks to bring attention to this increasingly current issue, proposing solutions through examples of merit of urban redevelopment.

Key words: River, urban fabric, division, connection, urban recovery.

1. Introduction

The direct relationship between the foundation of cities and watercourses until the late '800 is a subject that has already been overcome for years. With the growth of the cities, this relationship was however lost and with the technical development in construction, many watercourses were buried to give continuity to the urban space, to control floods or to heal unhealthy situations. The loss of the river, however, is not always due to its burial. So many other times it is channeled as in the case of the Tiber River and its muraglioni in the passage through the historic center of Rome, creating a discontinuity making the water hardly accessible for pedestrians. We must not forget that the river is synonymous of nature and works as a great natural infrastructure, passing through wide extensions of territory and establishing different relationships with the different parts of the city that it comes across.

This longitudinal character and this capacity to cross the territory and the cities has caused that in many occasions former channels were accompanied by infrastructures created afterwards, isolating rivers from the urban fabric. This is the case of the river Manzanares in Madrid or Cheonggyecheon in Seoul, both channels canceled by the gray infrastructure, subjects of an extensive project of urban renovation in the last decades. This infrastructural character is the main reason that in recent years the river has been rethought as an element of connection and not a wound of the urban space anymore, promoting numerous projects of recovery and re-appropriation of watercourses within the city. The recovery of the river and its use as a large urban infrastructure is the base of projects like the Turia Gardens in Valencia, where the void left by the river that has been diverted into artificial basins to control the floods, becomes opportunity to mend the city by creating a huge green park that holds together the many cultural structures that have been built along its margins (Palau de la Musica, Ciutat de les Arts i les Ciences). We use two examples, the Darro river in Granada and the Tiber river in Rome, to exemplify two ways of dealing with the river's reintegration into the urban fabric and its use by citizens as public space. Water, base of life and vegetation, is the generator of important green canals and promoting sustainable development of the contemporary city based on pedestrian users, discouraging vehicular mobility.

2. The case study

The coverage of the Rio Darro began in the sixteenth century and was completed by the nineteenth century, looking to increase the economic value of the land, reclaiming and replacing the poor housing that overlooked the river with the bourgeois buildings that still today characterize the city center. It was a clear case of violent denial of the natural element the foundation and development of the city was linked to. Today the different sensibility and mentality that guides the urban projects admits an hypothetic river recovery, which according to the research carried out, is necessary in order to redevelop this urban area that today is anonymous and confused, restoring historical identity and consistency with the urban context is located in. The aim of the research is therefore to find the correct strategy to make this renovation, in relation to the different urban contexts the river comes across. Rediscovering a

course of water that has been buried, in fact, puts us in front of many questions to be considered and solved in the contemporary city, mainly linked to mobility and to the new image of the city that it has become over time, certainly recovering the ancient memory. Our conclusion is that for the well-configured part of the historic center, the memory of the river can be recalled through signs and suggestions (caniveau for meteoric waters, paving composing the traces of bridges and linking ancient public spaces), showing how the recovery of the river does not necessarily imply its “physical” rediscovery, but can be simply suggested with an strategic project of ground modeling and consistent use of materials. In other cases, where an urban redevelopment is needed, a most invasive intervention of reopening the watercourse becomes an opportunity for a landscape project through the reintroduction of natural elements such the water and the vegetation, encouraging the pedestrians mobility and sustainability.

We find the opposite situation, with a total absence of anthropization, in the Tiber River when passing through the Ostiense-Marconi area. Former industrial zone, it is easy to understand how the city has grown turning its back on the river due to the conditions of poor sanitation. It is not understandable, however, that once deindustrialization has been widely overcome the city has not re-appropriated this wide green strip that could supply the lack of public spaces in this disperse area: the city does not reach the river and citizens can not access it either because the numerous facilities that are established on its banks have high fences, isolating the whole area and increasing the separation of pedestrians and water.

In the urban project drawn up in the mid-90s, the river park had a major importance as a key to reconnect both margins and to change the polarity of this area towards this large green infrastructure and reinforcing the perpendicular systems. The intermediate scale of the landscape and the toil of dealing with interstitial spaces, led in 2014 the university Roma Tre to propose the creation a Diffuse Botanical Garden that could work with these relationships and connections, putting into play the different actors operating in the area. In a delicate acupuncture exercise, the minute network of lost spaces interacts with the territorial main green systems, linking fabrics and flows in an exercise of wide repercussion.

3. Conclusion

In recent decades, there have been few examples that, through careful complex actions, have managed to reconnect citizens with their rivers. To name some consistent cases, we can turn our attention to French urban projects and the relevant actions they have been undertaken. In Lyon, Michel Corajoud for the Rhone and Desvigne/Dalnoky for the Saone in the early 90s, or Alexandre Chemetoff for the Vilaine in Renne, will approach the river as an active element for the urban ecology and creator of a rich and attractive typology of public space, opening a path that will later be continued by renowned projects as Situ Paysagistes for the Rhone.

The re-appropriation of water courses can today be a successful method for the recovery and redevelopment of contemporary cities, focusing on the usability of the public space over the mobility, and looking for the project strategy that best adapts to every context and every story, in line with the needs of modern societies.

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Biography

Francesca Paola Mondelli. (Vallo della Lucania, Salerno 1990), graduated in architecture at the University of Roma Tre cum laude, is interested in urban studies on the historical city, and in particular on the relationship between the landscape and the evolution of cities. He is currently attending a second level master's degree: OPEN, Architettura del Paesaggio, at the University of Roma Tre. From the period after graduation she is constantly dedicated to research and analysis on urban issues, publishing articles and participating in national and international con-ferences.

Marta Rabazo. PhD candidate at the ETSAM, DPA, UPM, in Madrid (Spain). She also coordinates the Master on Landscape architecture-OPEN at the Roma Tre University (Italy). Trained as an architect in Madrid, Spain, with a Master of Architecture from the Politecnical University of Madrid and a Postgraduate certificate in Design of Parks and Public Spaces from Roma Tre University of Rome, she has been working in architecture and landscape for the last twelve years for various firms including the award winning architectural office in New York REX P.C. and the renowned architectural and landscape office in Madrid, Solid Arquitectura. In 2008, Marta Rabazo joined Balmori Associates where she has been involved in various projects including Campa de los Ingleses park, Plaza Eusakdi, the Garden that Climbs the Stairs in Bilbao, Spain; the Botanical Research Institute of Texas in Fort Worth, TX; Yale Engineering Research Building and Farmington Canal Greenway in New Haven, CT; VIOL Headquarters in São Paulo, Brazil, and several competitions. Since 2010 she has collaborated with Roma Tre University of Rome, Italy as a teaching assistant and as coordinator of the II level Master in Landscape Architecture OPEN where she participates in the organization of several lectures, book presentations and seminars. Her interest in the intersection of landscape with infrastructure or architecture, sustainability and representation of landscape, guided her lectures and researches.

Urban Performativity

An approach to Urban Spaces through Performative events

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Synopsis

This paper will explore the relationships between the genesis of the cities and the con-temporary events – political, social and cultural- that take place in them from a per-formative point of view. There is a link between the everyday life of our cities and the different layers of history encompassed on them, they form a palimpsest. But there is not just a physical reality, the spatial configurations of our cities are linked to actions and rituals, and these can be read and understood approaching urban complexity from the point of view of performance studies.
In this paper, we will answer the questions: how is the urban identity shaped through performative events both as everyday activities and festivals? In which way the physical environment shapes the human interactions that take place on it? And also, how human interactions interfere with the physical space and its meaning?

Key words: Performativity, events, urban space, everyday life.

1. The performative origins of the city

This paper will explore the relationships between the genesis of the cities and the con-temporary events – political, social and cultural- that take place in them from a per-formative point of view. There is a link between the everyday life of our cities and the different layers of history encompassed on them, they form a palimpsest. But there is not just a physical reality, the spatial configurations of our cities are linked to actions and rituals, and these can be read and understood approaching urban complexity from the point of view of performance studies.

It is not a secret that the origin of the cities is in the human body. Cities emerged as a relational space based on how bodies interact with others in their everyday life. One of the clearest contemporary example of this are slums; parts of the city that just respond to the utilitarian use of space by their inhabitants. In the case of the favelas in Brazil, as Berenstein observes in *The aesthetics of the favela*, they are not designed to be seen, they are just responding to the fluxes based on their inhabitants' everyday lives (Berenstein, 2003).

They have not a monumental function, they are not purely aesthetic – although they have some inherent beauty – they articulate the use with the local constructive systems and the spatial and geographical constraints of the area. There is no architect or de-signer in the building process of the favela, just a community that creates an environ-ment with the minimal –and many times not enough – elements to develop their every-day lives. Its clearest feature is that they have been created having the human body as spatial scale in the configuration of these urban areas.

The programme of these housing developments is based on actions, or, as Mumford defines: "the urban drama". Public spaces are adapted to the uses that communities need to develop on them, and their character can change several times in the day de-pending on how they are being used. They are meeting spaces, playgrounds or just areas to socialize. Mumford approaches the city as a theatre, as he states: "it is in the city, the city as a theatre where man's mere purposive activities are focused and work out, through conflicting and cooperating personalities, events, groups, into more signifi-cant culminations" (Mumford,1937). The city has its inherent narrative, and it is experi-enced through time, as it is what makes the body able to engage with space.

2. Performance and events in public spheres

One of the premises of this research to approach the city from a performative event, in order to get to a better understanding of its inherent laws of movement and tensions, where performativity is introduced as a new spatial and ludic dimension. This attempt of approaching the city through performance studies has already been pro-posed, Paul Makeham points out that "performance studies, provide an interpretive frame for analysing the urban drama, encompassing not only formally designated art-works but an almost infinitive range of other phenomena as well" (Makeham, 2005).

Although, what as researchers, we may ask is: what can performance studies offer in terms of research in the context of architecture and urban-ism? In Thirdspace, Soja explains how the interpretation of space is usually reduced

to two ways of understanding it: the first one is the physical and geographical space, and the second one, which is more subjective - is focused on how we think of space; its mental or ideal representations. Soja proposes the *Thirdspace*, which is de-scribed by superposition, where “everything comes together… subjectivity and objectiv-ity, the abstract and the unimaginable, the repetitive and the differential, structure and agency, mind and body, consciousness and the unconscious, the disciplined and the transdisciplinary, everyday life and unending story” (Soja, 1996:57).

Figure 1. *The Trial of Harold Pinter*. Aleksandar Dundjerovic (NATO bombed factory in Kragujevac 2008).

Looking at contemporary performance practices, Lehmann defends the idea that it is possible to approach the creative process from a different point of view, not just from the text (Lehmann, 2006). The dramatic text looses its supremacy giving space, bodies or light a more important role within the creative process. In practical terms, this means that a theatrical piece can start with a movement score that would trigger the rest of the elements. If we think of space design, at the moment, we have the architect or the ur-ban/ landscape designer, who develops a project. What is proposed, is to address urban design as a post-dramatic process, not just from the desk of the designer, but from the analysis of space with different interdisciplinary tools. In other words; to let the “dramaturgy of space” emerge.

3. Site specific performance as a methodology of space analysis

Looking at a specific environment from performativity underlines the characteristics of space, for example street performers in Rome are part of the city's contemporary land-scape, and in their interaction with the monuments, give a different meaning to some areas of the city. Pearson explains that: "Performance might then be in conflict with or indifferent to site as well as reciprocal – and vice versa –only through studied indiffer-ence would demonstrate its specificity" (Pearson, M., 2010:40). This means that de-pending on how the performative layer interacts with pre-existent space, looking for the conflict and reciprocity, and contrasting both fiction and reality it is possible to find out unexpected data.

At the end of Pearson's lecture at the Quadrennial of Scenography in Prague in 2015, he pointed out: "put twenty dancers in a corridor and you'll figure out the characteristics of the corridor". All the processes we propose to increase our knowledge of the space are based on the physical experience so, as those dancers with their moving *sensitive* bodies, setting up interdisciplinary projects with teams formed by architects, dancers and performers in collaboration with citizens or specific communities, we can be able to unveil some of the characteristics of urban space.

Figure 2. Exploration of the architectural space applying Anne Bogart's Viewpoints. Dynamic Cartography, MJ. Martinez (2014).

The city and its performativity encompass more complexity that we are aware of, and traditional or more normalized methodologies are not offering us the information we need. Pearson's answer to this problematic may rely on an interdisciplinary approach to architectural and urban space from the sensitiveness of the arts. In this paper we will answer the questions: how is the urban identity shaped through performative events both as everyday activities and festivals? In

which way the physical environment shapes the human interactions that take place on it? And also, how human interactions interfere with the physical space and its meaning?

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Public spaces in the making from the perspective of urban anthropology

Public spaces of milan in contemporary era

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Synopsis

Nowadays, with the intensification of urbanization, many cities have being through urban transformations. A large number of urban design projects have mushroomed, not only in the emerging cities of developing countries, but also in the historical cities of developed countries such as Milan. Interestingly, urban design projects that followed the expertise of city planners and architects, who have professionally trained, seem fail to impress citizens. After nearly all styles and genres have experienced the post generation of development and change, it is difficult to judge exactly what is the beauty. There is no uniform standard. Therefore, as a city planner or architect, the master key for urban design projects is not the physical forms of space, but some other factors. Sophisticated experience and lessons are shared among cities worldwide. Indeed, mankind could import and benefit from their common wisdom, such as advanced machines, techniques, management methods, even national mechanism. However, there is one thing that cannot be imported, the custom. It cannot be imported because it is something that marks in people's DNA. The way they think, act and live does not change that easily or rapidly throughout time. It affects how the local use their own places, in anther term, their public life. The notion "non-places" by Marc Auge 20 years ago is already a prefiguration of excessive-globalization scenario. The coupling potentiality of urban design and urban anthropology lies in human's social attributes. Urban public spaces are the containers of people's public life that differs from place to place due to various customs. The research takes its theoretical inspiration from the Actor-network Theory which is an approach that oriented in sociology with the work of Bruno Latour and Michael Serres, and ethnography as methodology to capture the complex and shifting urban environment, attempting to discover a strategy for urban design projects during urban transformation in contemporary era, towards a resilience city.

Key words: Public spaces, urban design, urban anthropology, ethnography, actor-network theory.

Nowadays, with the intensification of urbanization, many cities have being through urban transformations. A large number of urban design projects have mushroomed, not only in the emerging cities of developing countries, but also in the historical cities of developed countries such as Milan. Interestingly, urban design projects that followed the expertise of city planners and architects, who have professionally trained, seem fail to impress citizens. After nearly all styles and genres have experienced the post generation of development and change, it is difficult to judge exactly what is the beauty. There is no uniform standard. Therefore, as a city planner or architect, the master key for urban design projects is not the physical forms of space, but some other factors. So here comes the question: what is the "master key" for urban design? Sophisticated experience and lessons are shared among cities worldwide. Indeed, mankind could import and benefit from their common wisdom, such as advanced machines, techniques, management methods, even national mechanism. However, there is one thing that cannot be imported, the custom. It cannot be imported because it is something that marks in people's DNA. The way they think, act and live does not change that easily or rapidly throughout time. It affects how the local use their own places, in anther term, their public life. The notion "non-places" by Marc Auge 20 years ago is already a prefiguration of excessive-global scenario. This research is commenced from the urban anthropology perspective, exploring the influences of individuals, groups, roles, behaviors, interactions, organizations, social structures, social relations, social groups, humanities and social attributes on people's public life in urban space, attempting to open anther window for urban planners and architects to manage urban design issues.

The coupling potentiality of urban design and urban anthropology lies in human's social attributes. Urban public spaces are the containers of people's public life that differs from place to place due to various customs. The scenes of different places can be predicted through the following factors. Firstly, the local social structure, for instance population structure, family structure, social organization structure; Secondly, social relations between individuals, individual and group, Individual and country; Thirdly, social groups involving clans, families, neighborhoods, occupational groups, etc. Among those, interpersonal relationship is considered as the main hypothesis for this proposition. The research takes its theoretical inspiration from the Actor-network Theory, which is an approach that oriented in sociology with the work of Bruno Latour and Michael Serres. It reveals that everything in the social and natural worlds exists in constantly shifting networks of relationship. As meth-odology, ethnography is introduced to capture the complex and shifting urban environment. Jan Gehl's observation of human behavior pattern, and interpersonal relationship in life between buildings is an idea reference.

Squares, as a cosmopolitical prototype of urban public spaces is introduced as the research model. The model works as the invariant in the research. Thus the selected squares are basically the same in terms of scale, form and spatial composition. In order to clarify the influence of interpersonal relationship or urban anthropological factors on the urban design, the model is hypothetical placed in different background with various nationality and tradition. To compare the various activities performed by the locals in the same public place, as it is so called multiple

scenarios of “a square” model research. It is a prism that reflects the different appeals of people who play different social roles, as well as the explicit and implicit interaction between individuals, families, friends and other social relationships in urban public space. Two of the imaginary prototypes for the research model have been chosen. One is Piazza Gae Aulenti in Milan, and anther is People’s Square in Shanghai. These two share almost the same spatial form, but it is so interesting to find out how differently local people use the same place. For example, in Milan people use the piazza for the outdoor-church activities like weddings, funerals or simply socialization after church, and at night the place is particularly popular with young people who gather here to meet and drink; However, in Shanghai, the square is full of all kinds of activities, there are Tai Chi player, “square dancers”, singing group who are usually senior citizens, man playing chess and poker, shoemakers, dating meeting, etc. The result and comparison of those selected scenarios of “a square” reveal further the issues of the integration of urban squares and urban anthropology. Subsequently, the multiple contradictions in the development of urban square design are clarified. A virtual urban square model is constructed under the constraints of social system.

It is an interdisciplinary research of urban design and urban anthropology, hoping to discover a strategy for urban design projects in contemporary era that adapts the shifting urban environment, towards a resilience city. The research will have an important theoretical significance and broad application prospects for urban transformation and sustainable development.

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Biography

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The Place Within

Rediscovering the Oikology of Places through an Ontological Approach

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Synopsis

A parallel comparative study explores the link between the fundamental characteristics of the architectural place and urban space. A space that is not closed, but open to possible connections – through the threshold and the frontiers of an interdisciplinary and transversal approach – with psychology, anthropology, but also technology, multimedia and computer science.
The intrinsic unifying force of the place is what makes the resulted space to open up and be the most appropriate for the dwelling of men, because it makes the alliance between man and nature concrete and tangible, as it brings them together in solidarity. Within this reality, the experience of living, typical to the human condition, is achieved in its full meaning.
In the urban space, within the mesh of connected places, other surprising and unpredictable spatial realities open up with their full originality, exalted by the fervour of human presence. This is the constant trait of a city, in all its parts, and it seems to excellently resist the processes of tertiarization and disneyfication that have put the historical centres of many European cities into confusion.

Key words: Place, space, link, essential architecture, multifaceted approach.

The concept of place might be framed by different perspectives, but it is on the horizon of architecture that it finds its original meaning. The word, in fact, denotes, first of all, the reality that is constituted through the construction of the dwelling. In fact, when we speak of places, we refer to parts of the earth's surface on which the constructive intervention of man has determined transformations such as to make the natural environment recognizable as a dwelling or, in any case, as a human space. Only as a metaphor, the word is adopted to indicate a non-architectural entity and, in this form, must necessarily be qualified by an adjectival term. In fact, we speak of geometric places, of rhetorical topoi (places), because both in topological geometry and in literary criticism the notion of place is precisely taken metaphorically borrowed from the lexicon originating from the human experience of the built dwelling. Like all the notions that appear obvious to us, and a usual part of everyone's vocabulary , even that of place is difficult to define. A district, a park, a street, a square or a city can be identified as a place. Even a single building might be recognized as a place. Inside a house, then, you can distinguish other places: the courtyard, the garden, the atrium, the living room, the kitchen, the terrace and others. A place can also be the space generated by the presence of a wall, a ruin, a tabernacle, a votive shrine, a bridge, an aqueduct. In short, the places can be multiple, they can contain other places and be contained in larger places; they can be isolated or interconnected, intensely lived or little frequented. In any case, a place is always constitutionally linked to something humanly made, built in order to create a space for human habitation. The concept of place also recalls the idea of a reality capable of expressing its own unmistakable identity, revealing at the same time the identity of the environmental and historical-cultural context in which it is inserted. The places incorporate in a harmonious way, the characteristics of a given territory that architecture has been able to welcome in itself, enhancing them according to human habitation. In places the relationship between natural environment, historical vocations and built-up space is realized as a polyvalent synthesis, as a manifestation of a immanent quality to the natural environment that the constructive artifice has been able to take under its own care. Within the places, the building does not impose itself with indifference to the characteristics of the territory and natural elements, nor to the historical-cultural heritage sedimented through the work and care of past generations. The claim of radical artificialization of the land and the landscape never leads to the construction of places, but to their annihilation and to the relative and inevitable loss of meaning of the dwelling. In the place it is as if a constant dialogue between nature and architecture, the original environment and historical landscape, between earth and universe, a multi-voiced interview where man is always called to participate through the experience of the dwelling. The nature of places is never therefore in the solipsistic closure, but always in openness and interaction. This vocation, on the other hand, is also that of architecture. As the philosopher and architect Paolo Cecere has recently clarified, that the architectural construction of the space is that which puts the human dwelling at its core it succeeds in giving space "a kosmotopic character", that is, a quality that originates from universal principles and becomes concrete, in works that are always singular, in which the cosmic breath of beauty finds its place in virtue of the always fertile

encounter with specific vocations of the natural and historical-cultural environment[1]. In places, adds the author, "Kosmos and Topos, united in the partnership made possible by the tectonic relation", give rise to a reality that, in turn, becomes generative and revealing of values and meanings that otherwise would have no way to come to the light. The resources that dwell in the earth and in the sky, by virtue of architecture, are manifested in a form that reveals latent vocations and unpublished values. The act of building space is, in fact, what, in giving a place to man, gives a place also to nature, both because it makes it dwell in the work, and because it makes it manifest as such through the dialectic that its elements establish with those of the architectural artifact. The latter, when rooting on the ground and rising in the form of a fence ordered according to an internal rule, means that, from the relationship that it establishes with the earth, with the sky, with the sun, with the air, with the seasons, with the natural landscape and the historical one, originates a place for the dwelling. In this way the kosmos is embodied in a topos endowed with its own unmistakable identity. By virtue of this process, we can say, borrowing a philosophical term, that places are the fruit of the maieutic action of architecture, because it is the architectural artifice that makes its peculiar nature emerge, making them recognizable and memorable.

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Biography

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Dismantling and rebuilding heritage. What does it means in terms of memory?

The case of submerged settlements in the study of building restoration, reconstruction and translation of memories

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Synopsis

We present a research which principal aim is to study and understand all the processes related to heritage that the massive construction of dams and reservoirs entailed in the central decades of the past century in Italy. We study its repercussion not only in from a building restoration perspective but involving fields such as memory, politics, geography, sociology or anthropology in order to manage all the "reactions" that engage the topic of *collective memory* and therefore constitute an opportunity to build new concepts through which to analyse (and design) very contemporary fields of study that could be applied to improve strategies for the conservation of the values of villages in areas with high seismic risk or hydro-geological instability.

Key words: Building restoration; heritage; submerged settlements; memory.

This research is part of an international project involving Spanish, Portuguese, Polish and Italian researchers whose main objective is to investigate restoration and reconstruction in Spain during the Franco regime and how they are connected to other European countries.

In this context, the main objective of our research is a comprehensive examination of a case study common to Italy and Spain: settlements that were submerged as consequence of the construction of water reservoirs in rivers. These operations which are mostly located between the late 1920s-1960s caused a great number of residences in mountainous areas to be flooded. Many resi-dences, disappeared completely under water which led to different phenomena:

One phenomenon was the construction of new population centres with buildings and structures that replicate the look of these lost villages and ancient buildings, or parts of them. This study reveals important data about *why* the State and different agents responsible for the buildings' protection believed it was advisable to conserve those determinate elements. From a technical point of view, it is important to study the experience and the formation of the restorer architects and the precedent cases in these operations of dismantling and transferring monuments.

Another phenomenon was destruction and abandonment. When the architectural elements were considered of no patrimonial value, they were submerged and even, as happened in many cases, dynamited to avoid the survival of the symbols and values linked to them.

The transformation and affectation of the natural environment and the landscape was inevitable. It supposed the creation of new landscapes, with artificial lakes that now are part of our imaginary. Also there is a more contemporary phenomena of the current rediscovery of submerged settlements for tourism purposes.

We study these processes using different historical sources, such as the construction projects, company letters, newspapers, and oral testimonials. We compare this information with its current situation.

On many occasions, communities were displaced from the places they inhabited and were relocated to other localities. In some cases, the displaced citizens were sent to new communities that felt foreign to them. Whether occupied or empty or consolidated as ruins, the old settlements that these citizens abandoned remained linked to the tradition of different populations.

Precisely in this aspect are inserted reflections such as those of Piero Bevilacqua and Manlio Rossi Doria that defines in the half of the 20th century the state of the mountain and the interior areas of Italy as the 'bone' of Italy. This is in contrast to the metaphor of the 'pulp' of the plains applied to the most developed and prosperous agricultural areas. This 'bone' is characterised by sparsely populated or depopulated lands, a dispersed demographic structure, small urban centres built over infertile and rugged soils, and a lack of communication routes and connections with the cities. They constituted a remote geography of poverty in a world in which the development of capitalism and the processes of modernization were transforming the rest of the territory with a speed never experienced until that

moment[1].

So, starting from the monumental restoration and overcoming the technical analysis of the technique of dismantling and reconstructing monuments and their implications, we try to go further, seeking the perceived values of the historic centres that made up this 'bone' of Italy.

The extreme situation of having to choose what to save from the flood activates the mechanism for selecting *future memories*, that is, which part of history will be remembered and transmitted to the future.

This disassembly of architectures could be seen as a metaphor for the reverse, the retrospective journey that this research has taken through the field of the architecture. From the more technical and specialized part, this research brings us back to its own founding concept why architecture is not only a construction, nor a technical matter. Architecture which is dismantled and reconstructed tells us about its origin. Transferring monuments or parts of them became the explanation of the need to respond to a social need of the inhabitants of the submerged settlements. This people, historically approached to the mountain and accepts the harsh living conditions that this entails. When flood happen they spring back, abandons its land for the benefit of that which we have defined the 'pulp', to which this renunciation will provide water for cultivation and electric energy. While these interventions will create new job opportunities in the mountains and entail a certain type of economic wealth, the trauma of seeing one's roots submerged will always be a constant, as evidenced by the diverse attitudes of these inhabitants with respect to their old houses, which tell us about the social and the memory role of architecture.

On the other hand, this inverse analysis that we are doing allows us, through the detailed study of the conserved and moved parts, to understand which were the most outstanding parts of the pre-existing architecture, those that the diverse entities in charge of their management decided to maintain in order to preserve the collective memory. Those 'saved' parts are the new milestones that this exceptional situation creates. Even if they totally lose their genus loci, they continue to have a value as an image, as material 'saved' from the flooding. They isolate themselves from the history of the rest of the architectural elements among which they have been constructed and consolidated and which remain submerged. They become the only witnesses of the existence of the rest. In this process, they charge themselves with a strong meaning, with an added value for those who knew them, which allows us to research in fields such as memory, politics, geography, sociology or anthropology. All 'reactions' that engage the topic of collective memory are an opportunity to build new concepts which we can use to analyse (and design) very contemporary fields of study that go beyond the field of architecture, themes and topics extremely relevant to Italy, such as those related to villages in areas with high seismic risk or hydro-geological instability.

The results of this research not only allows us to increase the historical knowledge of what happened and the processes that enabled them. But also is useful for to design new project strategies for the future.

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Biography

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Architecture reloaded

People as activators of social and urban regeneration. Rethinking a “modern building” in Naples

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Synopsis

This paper is part of a research aiming to verifying if and how through the architecture project it is possible to consider some marginal social categories of our society as protagonists of innovation, using their specific cultural components as activators of the urban regeneration of some “residual” places where the concentration of these categories is more widespread.
With the expression “architecture project” we intend a process that, starting from the construction of a demand, builds scenarios, tools and strategies of a “resilient” intervention, capable of “adapting” to the changes of our time. Our field of action are the suburbs, where people belonging to disadvantaged social classes have often been confined in a sort of macro-ghetto. These people are not considered as elements to be “recovered” from a cultural, social and urban point of view, but as activators of an “innovative” regeneration of the places in which they have been confined.

Key words: Dwelling, regeneration, adaptivity, resiliency, parameters.

1. Assumptions and objectives

Many suburbs of our cities are often the result of a progressive loss of value and of urban, social and economic decline which determines the conditions for the taking up residence of other disadvantaged social categories, such as migrants, sometimes ending up generating social conflicts between old and new residents. It often happens that the original inhabitants try to leave the place as soon as their social, economic and cultural conditions make it possible. In this way it may happen that the relationship between old and new residents is reversed. Hence, these places are increasingly transformed into ghettos in which the “newcomers” try to rebuild their housing models in an “informal” and provisional way which seems to take away space, in terms of quality and quantity, to the natives.

Starting from these assumptions research tries to reflect on the way in which an architecture project can measure itself against the social and cultural complexity of these places, designing spaces capable of responding simultaneously to the desires and requests of different cultures. Not simply flexible architecture but “adaptive” one, which is able to keep in play all the “parameters” which define its effectiveness, and to change according to their variation. An important part of this research will be about the development of the organizational criteria of these types of space and of the indicators able to measure them, which can flow into the project as “parameters” and can be managed through the parametric design approach.

The research is still in its early stages and it was decided to start from the dwelling dimension. We are talking about a double “retroactive research”: on one hand it tries to draw different ways of approaching the issue of social integration, on the other hand it has a retroactive look at all the research that, starting from the modern movement, focused on the collective housing dimension, trying to account for all the “sliding doors” that could have open to another possible post-modernity if this field had accepted the solicitations of some “secondary” instead of the “dominant” instances. The state of the art starts again from the strength of the “modern architectural thinking” but at the same time it also collects those “eccentric incentives” that, from a given moment onwards, have tried to stem the “mechanistic” drift. On the one hand we intend to start from a certain disciplinary tradition, from Gropius to Klein, to Le Corbusier and CIAM, which set themselves the goal of playing an active role at the “service” of society. On the other hand we intend the recover “others” research, like those of Team X, especially those of Giancarlo De Carlo or Yona Friedman which were particularly relevant for bringing the individual back in the spotlight instead of the average man, replacing the concept of function with that of “use”.

2. A new parametric approach

The first experimentation that was carried out consists of an application aimed at transforming a residential concrete building which was built after the earthquake of 1980 in Naples, codified by regional technical standards. The transformation is based on the logic of a perfectible project, modifiable in time and space according to the needs of users and taking up the Elemental logic of Aravena and the Lima plan of ‘70s.

Instead of thinking about the new type of housing to be inserted according to the characteristics of the new residents, it was decided to start from the different rooms of the house and work on the relationship that these environments require to establish with each other. In this way, goals have been established, linked to issues of accessibility, lighting and mutual relations between the spaces. These goals have been elaborated in an algorithm, in order to satisfy them, to bring to a field of possible solutions (Fig.1) starting from which the plants of the building have developed with a more traditional approach.

Figure 1.

In this way, architecture reasons through topology, instead of typology. Hence, it considers not only the spaces but, above all, their inter-relationships which become representation of different ways of living. Recalling the words of Alison and Peter Smithson: «when an idea is clear in the mind in the form of a significant graph (with recognized patterns of association, identity, use, and movement) it is possible to extend it to the idea that the ordering of a building can be sufficiently understandable to point to possible creative uses and its willingness to change.»[1]

Parametric software «allows organizing projects into associative systems based on the logic of relationship between parts, offering the possibility of altering the overall configuration of a system, acting on the parameters placed

[1] SMITHSON, Alison Margaret and Peter SMITHSON, 2001. The Charged Void: Architecture. p. 84

at the base of the design process, according to a logic of propagation of the modifications.»[2]

Moreover, through the repetition of the same process, they are able to provide a range of solutions, rather than a single solution, expanding the panorama of possibilities.

3. (open) Conclusion

The proposed research, therefore, aims at rethinking the generative approach "shifting" the advantages in "conceptual" and on the user side, releasing it from formal or structural outcomes and trying to re-read the modern architecture dwelling tradition in a more contemporary logic, in which the programmatic indeterminacy (the contemporary utilitas) seems not only to better translate the needs of a multicultural society in continuous transformation but also to open new possibilities to the ever more compelling question of integration.

…to be continued.

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Biography

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Grazia Pota. PhD student in Architecture at the University of Naples “Federico II”. She graduated in Science of Architecture (Bachelor’s degree) in November 2014 with a thesis entitled “The shape of light in the Étienne Louis Boullée’s conical Cenotaph”. Three years later, in July 2017, she graduated in Architecture (Master’s degree) at the University of Naples “Federico II” with a thesis concerning the design of dwelling and its possible evolution with a computational approach through parametric tools. From January 2018, she’s working on these issues with a research program entitled “Parametric Design and Social Housing: processes to recover Modernity”.

Turin as exploratory field of migration flows and multiethnicity

Urban design case study exploration

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Synopsis

With migration flows, cities receive an increasing number of newcomers that bring with them different cultures and backgrounds, and that have urgent needs for housing, language training, schooling and jobs as ways of insertion to their new environment. In the case of Turin, migration history is strong and nowadays the number of foreigners living in the city represent 15% of its total inhabitants. (Istat, 2017) The study presented aims to understand the insertion spaces newcomers have, within a multiethnic area where the number of foreigners is concentrated. This area holds 40% of foreigners as residents and within it, a problematic site is identified. An urban design exploration is proposed as a response to the site and its inhabitants' necessities. The project has the potential to consolidate the area with the generation of new and needed spaces for cultural and social exchange.

Key words: Migration, Multiethnicity, informal-spaces, regeneration.

1. Introduction

We share spaces in cities with others who in many ways are not like us, and we need to find ways of co-existing in these spaces. (Sandercock, 2000) With migration flows, cities receive an increasing number of newcomers that bring with them different backgrounds, and that have urgent needs for housing, language training, schooling and jobs as ways of insertion to their new environment. In the case of Turin, the city has a strong migration history, it has always been a destination city for migratory flows. These flows and reasons for human movements have changed during time and the city has responded in different ways: from the generation of peripheral "borghi"[1] and "borgate" to the building of industrial infrastructures and housing projects, and the current development of regeneration policies that involve urban requalification, "case del quartiere"[2] and cultural associations that help the city become a hybrid inclusive place. Even though inclusive areas are available, the demand for welfare spaces is higher than ever. This demand makes studies that deal and generate welfare spaces relevant. Spaces that propitiate encounters help make the multiethnictiy of the city evident and bring opportunities to ease the process of insertion of newcomers.

2. Multi-ethnic area in Turin

Nowadays, the number of foreigners living in Turin configures 15% of its population. (Istat) Within the 92 administrative zones that are part of the city, the areas with the highest number of foreign inhabitants are Borgo Dora, Borgata Aurora and Monterosa, with more than 5000 inhabitants per area, representing 40% of its residents. (Fig.1) (Comune di Torino)

The research presented in this paper analyses an enclave defined by the three administrative zones aforementioned. This analysis aims to understand an area of the city that has an apparent complex morphology and that has received an increasing number of newcomers that now generate the social phenomenon of multi-ethnicity. The study decomposes with maps the general physical characteristics of the area and links them to the activities that serve as ways of insertion to the city. (Fig.2–5) The most recognizable ways of insertion found are: use of open spaces, participation in cultural and religious events, enrolment in educative institutions, opening of local businesses and use of welfare spaces. The use of open mapping sources for the analysis was crucial.[3] The decomposition of this piece of the city takes into account the fact that every form (of the territory, of the city) is the result of a process of progressive association of parts, and that it makes sense to break it down and investigate its components only if its substantial unity and indivisibility is taken into account. (Conzen, 1988) The analysis of field data recollected and synthetized with the maps, gives a starting point for the development of the urban and architectural

[1] Borghi and borgate refer to the terms "borough" and "township", usually used as synonyms to describe peripheral areas of a city. In the case of Turin though, Borghi refer to ancient settlements formed in a rural context and borgate originated after the placement of the toll fence of the city. (Davico, 2014)

[2] Turin has invested in the generation of projects that could make the city an inclusive environment. The "case del quartiere" are examples of this urban regeneration efforts. These projects develop in diverse social contexts and offer services destined for specific citizens that live in the surroundings. (Devoti, 2015)

[3] GEO portale of Comune di Torino, Google Earth open source and site visits were used to map the spaces.

design exploration that addresses the problematic situation recognized in the area. (Fig.6).

Figure 1. Areas with the highest number of foreign inhabitants in Turin.

Figure 2. Religious and cult spaces in study area.
Figure 3. Cultural associations spaces in study area.

Figure 4. Educational spaces in study area.
Figure 5. Markets and small ethnic businesses in main commercial axis.

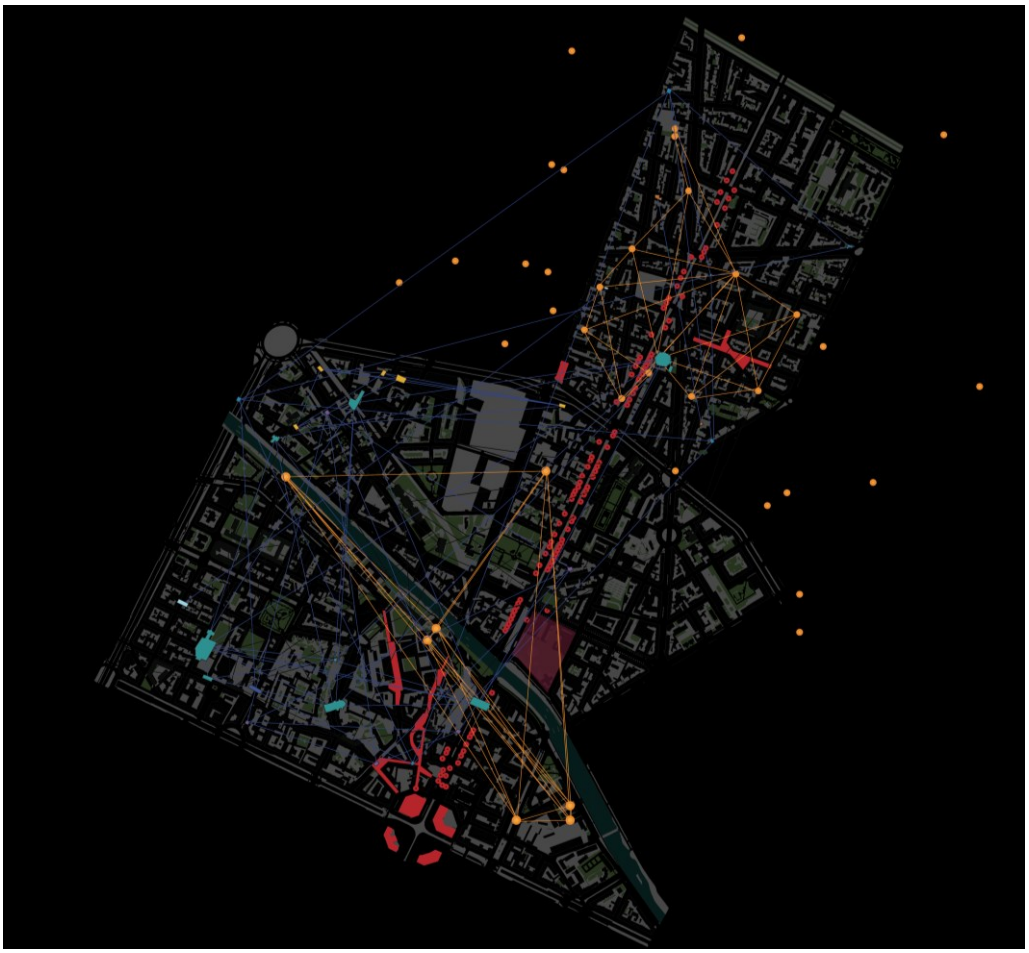

Figure 6. Spaces used as ways of insertion in the study area and recognition of intervention site.

3. Urban Design exploration

On a second phase of the study a problematic site is identified within the analysed area. The site represents a void in the context and in the social history of the neighborhood. It presents many challenges related to its morphology and use. Even though it has been used informally as a common space, the current spatial condition has made the place dispose to deal with drug smuggling, insecurity, homeless occupation, delinquency and perception of insecurity. Since the site lacks a defined use the area is considered an informal space. (Fig.7) Informal spaces are seen as empty and meaningless due to their temporary absence of attributed function.

Figure 7. Current situation of intervention site.

The dissection of this piece of city and the understanding of its immediate context help the development of ideas that unify the elements of the site while respecting the identity of what was generated in time. The site offers, with its physical and social necessities, the opportunity to generate spaces that allow social interactions. A project in the site works as a way to generate a sense of belonging with the addition of needed spaces. (Fig.8) Interventions in these type of spaces come as a two-way process in which spaces are created and modified as they are lived and used.

The result of the study materializes into a building complex project that responds to morphological, functional and social necessities. The complex has the potential to develop with time into an inclusive space for citizens and new comers. (Fig.9-10).

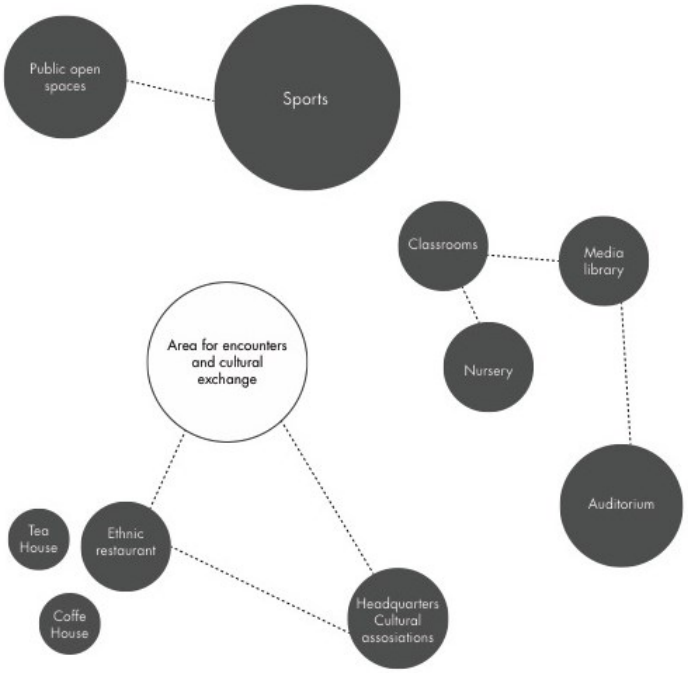

Figure 8. Programmatic spaces to be incorporated.

Figure 9. Rendering of the proposal.

Figure 10. Rendering of the proposal.

To sum up, in order for a city to evolve, differences in its demography need to be incorporated, accepted and enhanced. Multi ethnicity should be addressed and the generation of projects that dialog with the necessities of new comers and those already living in the area serve as a platform of insertion to the city. The current conditions of the area studied are the result of various events that changed it in time. The reconstruction of these changes are evident when maps and demographic data are analyzed. The findings of the study show the spaces currently being used in the area and how newcomers introduce themselves into the city through common activities. The understanding of the site's conditions as a sequence of events makes the solution proposed specific for this particular case. The response for the site's conditions needed to be a sensible one. Sensible to the local differences found in its demography, while maintaining an overall stability with the context where it was placed. (Allen, 2009) In this sense, the site offers, with its physical and social necessities, the opportunity to generate spaces that allow changing experiences and interactions between the different groups living within its context. The project presented has the potential to consolidate the area with the generation of new and needed spaces for cultural and social exchange.

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Biography

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Circular Economy and the Built Environment: Zelfbouw in Amsterdam

Addressing Resource Scarcity through Architecture

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Synopsis

The paper intends to illustrate the application of Circular Economy to the design of the built environment, with a focus on the Dutch case. CE is a flexible framework supporting the optimization of resource use through a global redesigning of production processes and supply of services, according to a model which involves the employment of waste as an input material for new production cycles; the sharing of physical assets; the virtualization of processes; the reuse of goods and materials. CE represents a promising option to design a sustainable built environment in the current condition of resource scarcity. In the Netherlands, CE is implemented in the urban development through a bottom-up, widespread planning approach, sustaining citizens in developing individual housing projects to build through zelfbouw - self-construction. Zelfbouw adapts circular methodologies, tools and strategies to implement innovative sustainable solutions, control construction costs and develop experimental forms of living. This process leads to a specific architecture, with peculiar characteristics: the investigation on this 'circular architecture' opens promising perspectives for the definition of new design strategies to deal with current conditions of resource scarcity.

Key words: Circular economy, resources, scarcity, self-construction.

1. Foreword

The growing awareness about the global resource scarcity makes the limitation of the use of non-renewable raw materials and the need to overcome the linear consumption model take, make, dispose look more and more urgent. The idea of "sustainable development" permeates today the global debate in any field of knowledge; architecture and urban design have followed this motion, turning their value, appeal and mission towards the purpose of "sustainability". In the last years the focus of the global research is on the investigation of the materiality of architecture, its physical legacy, its reuse and recycle. Form, duration, necessity of architecture are deeply challenged by global changes in terms of living and consumption, affected by intertwined phenomena such as information revolution, digitalization of services, deregulations of many markets, recession. Innovative fields of action have been enabled, as well as exchange opportunities and business formulas: architectural and urban design are involved in this shift, responding to changing needs and following evolving processes. The emerging paradigm named Circular Economy (CE) represents a relevant case study to investigate new forms of design and production, as it is a flexible framework recognizing mutual relations among global issues and proposing to address them as a whole, without preaching austerity but depicting a prosperous growth compatible with resource preservation.

2. The Circular Model

The main idea of the circular model is to employ waste as a resource, using the value retained in waste within production processes to close resource cycles and optimize materials, products and processes (Ellen MacArthur Foundation 2015), making them more efficient. To "employ waste as a resource" encompasses the discarded material output of processes as well as wasteful uses of products, redundancies and inefficiencies: CE encompasses indeed the sharing of physical assets too; the virtualization of processes; the reuse of goods and materials.

In recent years, the study of CE application to the design of the built environment and the urban domain is a widespread topic, opening promising perspectives in many terms. In the field of architectural and urban design, CE is assumed in its technical aspects as a model to rethink the material resources supply, employment and discarding within the process to design, build, live and dismantle buildings and fragments of built environment. Materials and resources are then studied and examined in their provenience, employment and in their potential to be reused after the end of their first operative cycle, to identify opportunities to improve the efficiency of their use.

3. Zelfbouw in the Netherlands: Testing Circularity in the Built Environment

Among European countries working on the transition towards CE, the Netherlands constitutes a relevant case study: in September 2016 the government program *A Circular Economy in the Netherlands by 2050* was issued, fixing guidelines, strategies and objectives to lead the country towards a better optimization of resources within 2050. National economy presents a widespread application of circular model; among several implementations, some specific

researches and experimentations employ this model to meet the challenge to design a sustainable urban environment.

A relevant case study is the city of Amsterdam: the municipality made EC one of the main points of their sustainability policy, as illustrated in their 2015 sustainability agenda (Gemeente Amsterdam 2015). Among the initiatives for the transition, Amsterdam municipality is promoting bottom-up forms of planning, selling off plots in development areas where they institute special statutes, to let experimentations towards alternative kinds of growth take place.

In Amsterdam, as well as in other parts of the Netherlands, the illustrated planning approach develops in a specific architecture: *zelfbouw*, 'self-building' is growing and supported by the government, in partial fulfilment to the circular and sustainable development ambition for the country and in partial response to the financial crisis. Zelfbouw allows individuals to supervise which materials are employed to build their houses, to choose good performances controlling the costs; they can control energy supply solutions, to implement in their house techniques allowing them to be independent from public supply and fulfill the desire to rely on renewable sources; furthermore, zelfbouw represents a strategy to control housing costs, because it releases from the floating real estate market. Above all, self-construction unlocks the opportunity to have a house responding to specific requirements and taste, able to evolve with dwellers' necessities and desires.

Self-construction is conducted under different forms, from the initiative of private individuals to the organization of groups of citizens, acquaintances or like-minded people looking for forms of common living to face real estate crisis. Self-builders act under low restrictions: they adopt innovative solutions in terms of sustainability, affordability and design; they take advantage of this freedom, implementing in their designs different spaces to fit different forms of living, often experimenting in mixing private and public spheres and in sharing spaces and facilities. Spaces are also shared when housing has to be reduced to stay affordable: neighbors share few square meters to build common, extra comforts, as a common workspaces or guest rooms.

4. Conclusions

Zelfbouw production represents an ensemble of relevant examples of architecture derived from circular processes, opening wide interpretation perspectives. First of all, zelfbouw realizations are the output of architecture processes driven and performed by final users: houses are illustrated and communicated as manifestos of their dwellers' lifestyle and ambitions. Architects are involved and hired as technicians: the necessity of their professional role is stressed by the majority of self-builders, but the authorship of the design is attributed to the dweller, even if shared. In case of collective zelfbouws, architects act as managers of the common process. Their task is organizing individual requirements and desires in a system, getting close to the role depicted by Carlo Ratti as 'the choral architect': a programmer, devoted to the activation of space rather than its creation, studying the collective ecology of a group and setting a self-determining process. The choral architect leads the autonomy of the individual in the design: he or she acts as editor, able to take top-down decisions thanks to

their competences, fulfilling a curatorial role (Ratti and Claudel 2014). This aspect opens interesting perspectives in terms of programming a building life cycle: designed by their own residents, tailor-made on dwellers' own needs, houses are less exposed to obsolescence of trends and declines of taste, avoiding being dismissed for inefficiency or disenchantment. Their structure allows flexibility and possible reinterpretations, unlocking new configurations for new dwellers after the first one. Their future evolution will tell if their flexibility will have activated new arrangements or if they will have fit just their first initiators.

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Biography

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Constantine of Tomorrow: Towards a shared vision

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Synopsis

At the dawn of 21st century, Algeria has undergone major upheavals in its political, economic and social structures. The emergence of real vehicles of change give only one choice, that is to integrate into the global system, considered to be a milestone in any development and which was favored by the Algerian economic context in the early 2000s. These years were also marked by the country's commitment to sustainable development, introducing various laws and new planning instruments to reinforce the challenge of the living conditions for the inhabitants. It seems that a real "participation policy" was born in Algeria at minor scales including cities, but whose impact and evaluation remains in place!

The aim of this study is to highlight the participation of inhabitants, their roles, capacities and the obstacles encountered in creating positive changes in their urban spaces lived. An assessment study of some pilot projects for rehabilitation and urban improvement is considered, which involved five ZHUN (New Urban Housing Zone), developed with the participation of inhabitants in Algiers, Tizi-Ouzou, Bechar and Oran. The experience of urban improvement at Daksi district in Constantine is also treated. Our objective is to better understand the participation of the inhabitants, between theoretical discourses and concrete actions. What changes will there be for the Algerian city of tomorrow?!

Key words: citizen participation, strategic planning by targeted objectives / ZOPP, urban strategy, Algerian city, Constantine’s future.

1. Introduction

The triggering event of Algeria political upheaval was undoubtedly the change of socialist course and the liberation of the market, originated from the mechanisms of globalization and their impacts. Algeria also was among the en-dorsers of all international conventions dedicated to sustainable developments as a guideline and forecast of any developmental project. Social and environmental interests have thus gradually emerged.

The government has therefore adopted decentralization, it was necessary to delegate to the "commune" base powers to freely manage local affairs. This indeed reflected a willingness to be in agreement with the expectations of the population: it was the proclaimed participation!

Despite the enthusiasm for political participation, the government was well aware of the gap existing between the legitimate expectations of inhabitants and their "bad experiences" due to inappropriate living environments.

2. The pilot projects of urban rehabilitation: cross-readings and fallouts

Many efforts have been made to alleviate the situation, but the results were often disheartening. The country thus launched from the years 2000, a number of studies, new experiments and many accomplishments. The experience of urban rehabilitation pilot projects of five ZHUN (New Urban Housing Zone) with the participation of their residents is presented in this work. The projects concerned different Algerian cities: Algiers, Tizi-Ouzou, Bechar and Oran.

Fig. 1 Geographical location of pilot projects across Algeria
(Source : https://fr.maps-algeria.com/l'alg%C3%A9rie-carte-physique)

It was a part of a technical cooperation between Algeria and Germany, signed in 1999, the Algerian state has aided architects and specialized technicians training in Germany, specific to the projects of urban interventions in occupied sites and against the backdrop of initiation to strategic planning and the efficient participation of the actors concerned, specially the inhabitants.

The Algerian delegation has taken note of the ZOPP method (Ziel Orientierte Projekt Plnung), a standard working method of planning by goals and targeted groups (whose fields of application can be vast), but which finds a good efficiency in the framework of actions carried out to impel, at the same time, a new, modern, reflexive, cautious, and negotiating urbanism, that is to say an urbanism of purpose and participation, according to François Ascher.

The first objective of the study is to try, through this pilot experiment, to understand the reality of the inhabitant's participation between theoretical speeches and concrete actions to extract the advantages, the drawbacks and the most important obstacles encountered by such corporation and to identify the ingredients of an eventual success and its propagation on a national scale.

So, we focused on the actions in Boumerdes, a part of the metropolitan area of the great Algiers, the project began in 1999 and interrupted in 2003 because of a earthquake. Despite the fact that this project could have marked the importance of such actions to modernize the urban and living environment; the results reflected the failure of the application. It remained disjointed in terms of space, time and scope.

Fig. 2 Pictures of the actions of the pilot projects; 1. works on the facades (city of amandiers - Oran) - 2. Meeting at the info point- 3. physical and moral participation of the inhabitants (Soummam city of Bab Ezzouar - Algiers) 4. City Frantz Fanon (The latter is located on the outskirts of Boumerdes at its northern end, built by DUCH in 1984, issued at OPGI in 1988).

(Source: Higher Institute of Management and Planning, Algiers,2000)

3. Exercise of "transcribing" the pilot experiment: the trials of changes for tomorrow's Constantine

The second objective of the study is to attempt an exercise of "retranscription" of the experience at Constantine, third largest Algerian city, in order to assess future trends at the heart of the contemporary issues facing it. Indeed, the city has been endowed during the last two decades with several projects to boost its different sectors.

Due to its strategic geographical position and its geo-economical context, Constantine has all the assets to be a pole of regional and national excellence. The projects launched initially appeared to be designed according to a new participatory approach that might undermine the spatial imbalances and boost the modernization and metropolisation of the city.

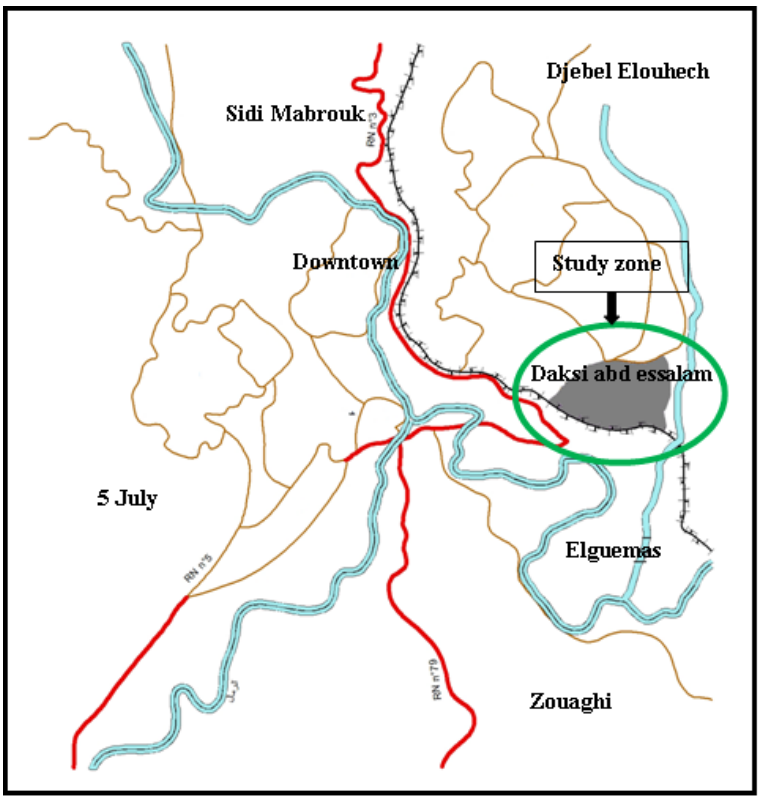

Fig. 3 Situation of Daksi district in Constantine

We chose the district of Daksi as a case study. It represents one of the first peri-urban extension, which dates from the 70s. It is an important urban unit, composed of a monotonous and repetitive collective housing that reflects the image of a degraded lifestyle. The approach that we have established, allowed us, first, to diagnose the state of the district, to later be able to project, in the light of the experiment studied, a collective vision shared around a project which will bring together all the stakeholders, especially the inhabitant!

4. Results and discussion

The survey conducted among the residents revealed their lack of information and the lack of transparency around existing projects and actions

throughout the city, in addition to the disinterest for the Daksi district, whose residents continue to experience daily inconveniences. Moreover, there was evidence of their good cooperation regarding the change in the current situation.

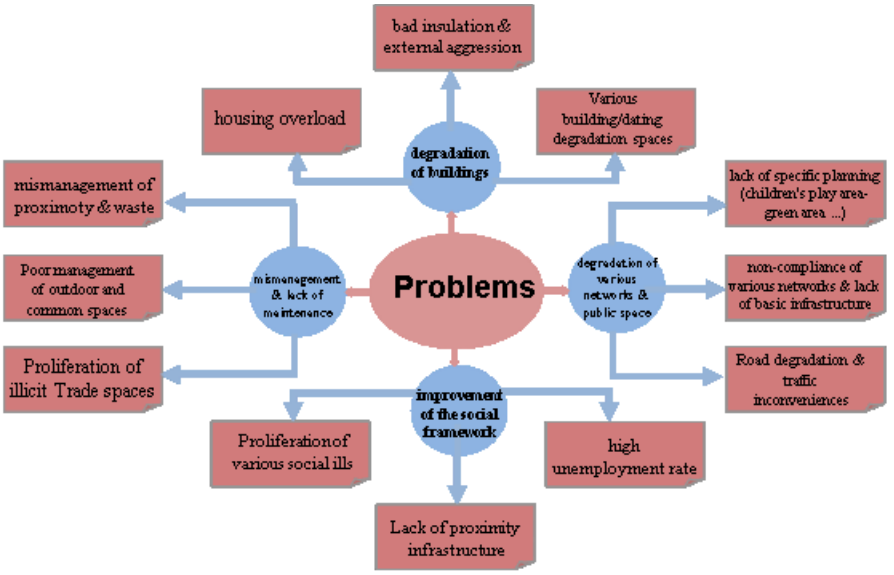

Fig. 4 diagram representing a problem tree[1]

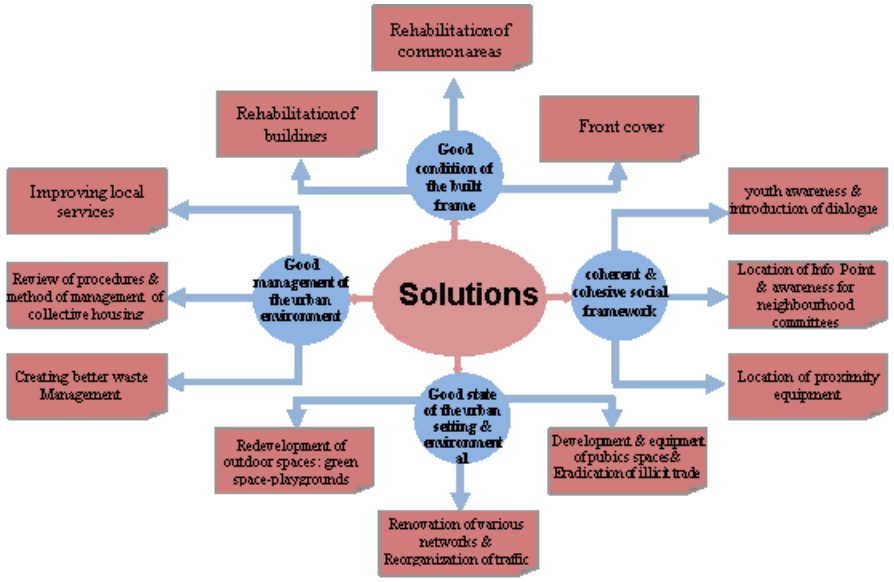

Fig. 5 diagram representing a tree of objectives[1]

The diagnostic work carried out using the ZOPP method steps, allowed us to define the problems and their cause-and-effect relationship, according to a sort of hierarchy. This methodological approach will make it possible to project the vision of a future situation, that is to say, once the current problems would have been solved. A distinction is then made between objectives, between desirable and achievable (Fig.5).

[1] The urban project and the participatory approach: case of Daksi district in Constantine, Master project of BenAthman Mahfoud and Bambarek Omar - Supervised by Ms. Author 1, 2017.

5. Conclusion

The participation and consultation of all actors in the city is an option that goes back from the 90s in Algeria, but still remains unknown in our practices. Concretely, the reading of the experiment on the pilot cities, as the Daksi district of Constantine, allowed us to deduce the importance of first impelling a new urban culture, raise awareness to the Algerian society, so it can structure itself in the city through the associative movement to impose its aspirations. The change should also include political and administrative systems, to manage a more coherent and rational Algerian city through the principles of participation, consultation and sustainability. The urban act will have to find its legitimacy within the framework of a global action articulated by a collective vision of the city of tomorrow. But between speeches ... and acts, gaps remain to be filled!

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Biography

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Dr Amel Ferial Boudjabi. Born in 1971 in Algeria, she had the engineer degree in energetic in 1994 and doctorate thesis in the same field in 2010. Interested by the energy and building, she is a researcher in energy efficiency, renewable energy integration in buildings and smart cities. She is a dynamic member of a new association: Energy Cities Algeria, which is in the effective involvement of local communities through the adoption of measures of energy efficiency in Algerian cities for a sustainable development and a better future.

BI & Data Science for architects

'The Building Data Library': an online platform to share and analyse building data

Fructuoso, Jose Juan

Synopsis

Data-driven design processes have been increasingly implemented in the training of new generations of architects and have been focused on BIM (Building Information Modeling) both to create and manage building documentation and in parametric design tools to generate complex geometries. At the same time the ability to collect data across the building life-cycle is exponentially growing but, although this digital data management could improve the design quality of buildings in terms of operational performance and user experience, there is still a lack of architects trained in integration and data analytics.
'The Building Data Library', an online platform of analytical 3D models of buildings, tries to solve this issue by applying Business Intelligence (BI) and Data Science (DS) tools to promote digital data management in order to make informed decisions beyond our own expertise and intuition.
These kinds of databases will play a paramount role in a near future where Machine Learning (ML) will lead to the automation of many design processes.

Key words: Data Science; Machine Learning; Business Intelligence; Big Data; Design process.

1. Improving the quality of buildings and cities in terms of data

The AECO Industry (Architecture Engineering, Construction, Operations) is aware that making inappropriate decisions at early stages of architectural design has a huge impact on the social and financial value of buildings[1]. Because of that, a lot of resources and investment are aimed at developing tools and processes that min- imize risks in the early design stages.

Building Information Modelling (BIM) and Geographic Information Systems (GIS) are methodologies that have emerged as a logical consequence of these huge efforts. In spite of that, as architects and urban planners we know that these useful software implementations minimize errors and speed up design and documentation processes but do not guarantee the design quality of a smart building or city.

To talk about design quality is to focus on how our buildings and cities serve their occupants in terms of operational performance and user experience. Therefore, we need methods to verify the starting design goals in order to correct shortcomings or implement better solutions in our next designs. Collecting and analyzing data throughout the building life-cycle can provide a useful benchmark in order to make informed decisions beyond our own expertise and intuition.

Other business areas and industries have achieved great advances in Big Data analysis. In our field, when we talk about a full portfolio of projects, sensor data, occupancy data, energy data, or even purchase data, we are starting to talk about a large amount of data. And in this scenario Business Intelligence (BI) and Data Sci- ence (DS) emerge as suitable methodologies for architects and urban planners.

2. Architects have always worked with data. What's new?

Experts in databases have been overwhelmed by the success of the term 'Big Data', an area that they have been studying for more than 40 years under the name of 'very large databases'[2]. We have the ability to calculate and accumulate information that could hardly have been predicted a few decades ago and storing and conveying information in real time is increasingly affordable[3].

This ability to collect data via smart buildings, smart cities and the Internet of Things (IoT) and the speedy advances in Artificial Intelligence (AI) will lead to the automation of many design decision-making processes. Here 'smart' is not only do- motics, it is about managing data, because software and device technology changes rapidly, but data persists. Hence, it is needed to form our design decision-makers in integration and data analytics.

As architects we are used to working with data as a start and end point. We do not produce buildings or cities. We produce instruction documents from pre-ex- isting condition data. In fact, our layouts are documentation views of a digital data- base: the BIM/GIS model. Although we know that analysis is not

[1] See: The MacLeamy Curve: https://www.researchgate.net/figure/The-MacLeamy-Curve-9_fig1_315359204
[2] Conference on Very Large Databases VLDB 2018 will be held this year in its 44th edition.
[3] In 2015, the storage capacity of public cloud data centers stood at 170 exabytes worldwide.

enough to produce outstanding proposals because our creative process is proactive, the quality of our answers will be determined by our capacity to formulate the best questions. And these emerge better from an accurate management of a large amount of unstruc- tured data.

3. 'The Building Data Library', a collaborative platform to share and analyse building data

How can we implement this digital data management to improve design qual- ity of buildings in terms of operational performance and user experience?

First, by using BIM software to build databases of spatial 3D models that work as data repositories throughout all phases of a building life cycle (design, construc- tion and operations). Second, by integrating and analyzing data with BI tools. And third, once the volume of data is significant, by developing predictive models based on Data Science methods.

To contribute to spreading this workflow among architects we are launching 'BILI. The Building Data Library' (Fig. 1) An online collaborative platform of analytical 3D models from exemplary buildings that visualize their most relevant data, space planning, performance and key design features, through BIM and BI tools.

Applying spatial analysis of outstanding building samples that have been tested by the passing of the time, expert opinions or optimal post-occupancy evalu- ation, can be a useful starting point to introduce a design process based on digital data management.

Figure 1.

4. How BILI applies Building Intelligence & Data Science methods

A methodology based on BI and DS should take into account the following steps: collecting, processing, analyzing, predicting. Our workflow redefines them:

– Extracting: scraping tools, text mining, sensors, websites, post-occupancy surveys, social networks…
– Processing: data wrangler tools and data integration (ETL).
– Modelling: databases design and analytical BIM modelling.
– Visualizing: BI dashboards and maps, BIM viewers.
– Improving: Genetic Algorithms based on Neural Networks[4]

Our online platform: 'thebuildingdatalibrary.com' develops this methodology by defining two sets of building data: 'Datacard' and '3D Model'. (Fig 2).

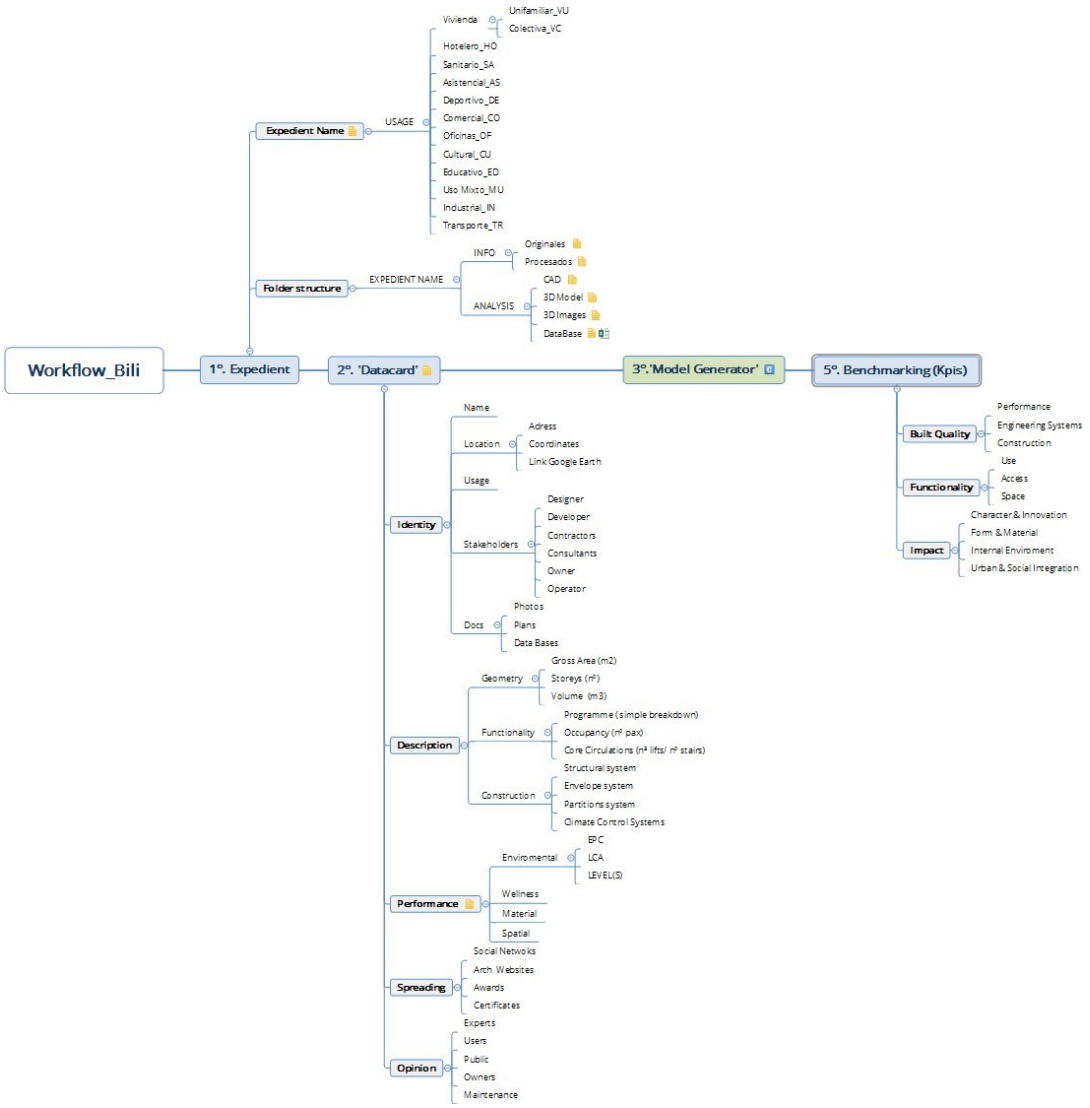

Figure 2.

[4] There are a lot of interesting experiences about space planning optimization: see 'Autodesk MaRS Office by The Living Studio. https://vimeo.com/193915345

'Datacard' gathers building attributes in five categories: Identity, Description, Performance, Spreading and Opinion. '3D Model' is produced using an automated process called 'Model Generator' and it is based on room spaces with semantic at- tributes. At the moment we analyze: Usage, Core, Circulations, Volume, Public, Evacuation and Shape.

Both 'Datacard' and '3D Model' can be mapped with new data categories at any time, for example to collect post-occupancy evaluations.

Finally, we could benchmark the design quality of the building with aspects defined by the Design Quality Indicator (DQI)[5] :Build Quality, Functionality and Im- pact.

5. Laying the groundwork for an ML-based architectural design

Collecting, analyzing, visualizing and predicting data can help stakeholders in the AECO Industry make better decisions, but everybody knows that advances in the field of Artificial Intelligence (AI) allow computers to find a faster and optimal so- lution to a problem or a task.

Machine Learning (ML), a subset of AI, can provide us with the ability to trans- form learned data into architectural proposals by using algorithms. If we focus on the branch of Reinforcement Learning (RL), we can find tools oriented towards this de- sign optimization in the family of Genetic Algorithms (GA) where a 'fitness function' could determine, among thousands of possible solutions, the design quality of the candidates.

Fortunately, the community of programmers in this field is growing increas- ingly faster and ML does not require much advanced programming learning on be- half of architects, only a large amount of data to work from. And here is where a platform of 3D models like 'The Building Data Library' could play a paramount role.

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Biography

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With an accumulated know-how of 20 years developing architectural and urban design programs, several projects awarded and published in architectural media, broad experience in architectural competitions and more than 15 years using BIM methodology, nowadays I am involved in an innovative web platform: 'The Building Data Library', in order to develop my passion for technology and Architecture.

1995 Master of Architecture (M.Arch.) Universidad Politécnica de Valencia.
2004 Research: 'Between Kunst and Bauen'. Universidad Politécnica de Valencia.
2004-06 Lecturer. Proyectos Arquitectónicos. Universidad Politécnica de Valencia.
2009 Paper: 'Thinking the housing. Building the city'. Congress: Housing, Business and City. Elche.
2009-12 Submissions: 24 architectural competitions. Spain, Portugal, Switzerland, México.
2014 Unfinished PhD Thesis: 'Rules for an Ideas Competition'. Universidad Politécnica de Valencia.
2016 Self-published: 'Half a dozen. 6 retail projects for MTNG by 5151'. Issue.com
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Inclusive practices for living together

A collaborative regeneration model for social housing neighborhoods

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Synopsis

Nowadays, contemporaries cities show a problematic picture in which economic and environmental crisis and new social needs intersect. In particular, the social housing neighborhoods are affected by this crisis, revealing a physical and functional obsolescence that requires innovative strategies able to dialogue with the existing building heritage. Facing with this complexity, we must think about a project capable of imagining new scenarios, responding 'in the present' to the demand for a better life quality; a project which should be also able to persist over time, adapting itself to the ever changing needs of people. So, new practices for a more inclusive living must be defined, and, where already existing, enhanced. To reach this goal, it is required a new multidisciplinary, multilateral and multi-scalar approach, that looks at the inhabitants as the actors in cities production process. If social sciences have enriched the architectural practice through a qualitative analysis that has allowed to interpret the real inhabitants' needs, today the architects can take on these needs, creating new spaces for social cohesion through architectural practice. Defining new inclusive planning tools is the means to trigger inclusive regeneration processes for social housing neighborhoods that, in this way, can once again give appropriate answers to the quantitative and qualitative challenges facing our cities and which they will face in the future.

Key words: Social Housing Neighbourhoods, Inclusive Urban Regeneration, Collaborative Housing, Multidisciplinary Approach, Urban Social Design.

1. Introduction

Nowadays, contemporaries cities show a problematic picture in which economic and environmental crisis and new social needs intersect. In particular, the social housing neighborhoods are affected by this crisis, revealing a physical and functional obsolescence that requires innovative strategies able to dialogue with the existing building heritage. Facing with this complexity, we must think about a project capable of imagining new scenarios, responding in the present to the demand for a better life quality; a project which should be also able to persist over time, adapting itself to the ever-changing needs of people. So, new practices for a more *inclusive living* must be defined, and, where already existing, enhanced.

Although often described as monotonous and criminogenic, at a closer look, these neighborhoods, reveal, in fact, a dynamic system of informal associations that demonstrate the will of the inhabitants to *'take care'* of the places in which they live, describing a scenario made up of new communities.

2. European social housing perspectives

If we consider as the ultimate goal of architectural practice, the search for *"an inclusive society that should be enduring, open, undivided, and accessible"*[1], nowadays the question is to understand how social housing can contribute to reaching this objective; what is its role, therefore, in the future of our cities. The production of cities that could be called *smart*, requires, in fact, commitment in searching for an urban development model that should solve the demand for an *affordable* and *adequate housing*.

For this reason, it seems necessary to start from what already exists, from understanding the planning history of these districts and the life that takes place in them every day. So, implementing clever housing policies means gaining greater awareness of what is happening in these neighborhoods and, at the same time, exploring the links between research and profession, culture, and socio-economic context to define a specific framework, in which the man must return to be the center of reasoning. From the field of sociology to anthropology, from architecture to urban planning, from history to economics, we need to integrate the different disciplines for a *holistic* approach in response to the housing emergency. The future city planning will be smart only if based on this, becoming able to guarantee a *high quality of life*.

3. Towards an active role of the inhabitants: empowering housing

"The *inhabitants are planners because they invent the city every day*"[2]. According to various researches, the lack of adequate housing support policies has led people to autonomously meet their needs. These "*traces of everyday living*"[3] are even more evident in the social housing neighborhoods, where often the historical conditions have produced 'failures' of the projects as they have been realized. These forms of spontaneous appropriations lead us to think

[1] BAKKER, Pepijn, 2017. Expand our movement!. In: International Social Housing Festival
[2] PERCQ, Pascal, 1994. Habitants aménageur. La Tour d'Aigues: Éditions de l'Aube. ISBN 2-87678-170-0
[3] DI BIAGI, Paola, 2016. Quartieri e spazi aperti: un laboratorio progettuale per la rigenerazione urbana. In: Re-cycle housing. Nuovi cicli di vita per l'abitare. Roma: Aracne Editrice. ISBN 978- 88-548-9794-6

about what the real needs of the inhabitants are, and therefore on which elements to take priority first.

The challenge today is to adopt strategies able to recognize the surplus value dictated by this spontaneous activities, through a creative design which allows establishing innovative connections, activating unreleased links in the network of the habitat project. To achieve these goals, two turn out as the key concepts: *sharing* and *empowering*. For empowering, we intend to recognize the role of the inhabitants and provide them with the tools to have an active part in their future. The involvement, and therefore the commitment, become growth factors, both for citizens and for the city.

So, we will try to demonstrate the need for a more flexible planning, that should consider the man, not as only a recipient, but as an "**actor in the city's production process**"[4]. In order that an "urban social design"[5] can be realized, it is necessary to transfer the knowledge and the skills to all the actors involved, and above all to the inhabitants, main drivers of the change towards a smart city because *resilient*. We will try to understand how the inhabitants' role in the bottom-up planning practices evolved over time, such as the various forms of co-operation possible, to define the epistemological and methodological framework for new inclusive, participatory housing models.

4. A collaborative regeneration model

The experiences reported, that, on a global level, see the inhabitants as "*anonymous builders*"[6], are worth even more when they are used to trigger **inclusive regeneration processes**. In this way, social housing districts go from being waste products of urban transformations to being creativity lands. Research has shown that the inhabitants, because of these shared experiences, develop a collective identity, guaranteeing a life 'continuity' to these neighborhoods. In this way, these districts become the place where to establish new forms of social cohesion that are translated into shared architectural practices.

It appears clear how architecture plays a fundamental role in the creation of spaces (not only physical) for social cohesion. If the social sciences have enriched the architectural practice through a qualitative analysis that has allowed to interpret the real inhabitants' needs, today the architects can take on these needs, to define new **inclusive planning tools**.

Social housing, therefore, to improve the people's living conditions, must open up to new perspectives. To ensure the effectiveness and sustainability, it is necessary a *multidisciplinary*, *multilateral* and *multi-scale approach*, providing the inhabitants with the right tools so that they can return to appropriate their "*right to the city*"[7]. Social housing, seen from this broader perspective, can once

[4] Cfr. URBAMONDE, 2015. Production social de l'habitat. Munich: ClimatePartner. ISBN 978-2-8399-1736-0

[5] TATO, Belinda and Jose Luis VALLEJO, 2014. Urbanistica sociale. Domus Green, no. 983, p. 8-11. ISSN 0012-5377

[6] Cfr. Program of the conference L'entre-deux barres. Une ethnographie de la transformation des ensembles de logements collectifs par leurs habitants, 2017.

[7] LEFEBVRE, Henri, 2014. Il diritto alla città. [Le droit à la ville]. 1968. Translated Gianfranco Morosato. Verona: Ombre Corte. ISBN 889-75-2294-7

again be a means to find appropriate answers to the quantitative and qualitative challenges facing our cities and which they will face in the future.

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Biography

Giorgia Di Cintio. Licensed Architect and PhD in Architecture. The PhD thesis “The collective dimension of living. Regeneration strategies for social housing neighborhoods”, has been drafted on the themes of social and collaborative housing, of heritage valorization and of urban regeneration. The PhD title was obtained at the School of Advanced Studies "G.d'Annunzio" of Chieti-Pescara (Italy), after a period of research as a Visiting Scholar at the Laboratory Architecture Anthropology of ENSA Paris La Villette (France). Member of the European Network of Housing Research since 2017, she has been selected for numerous international conferences and workshops. Her research focuses on the role of the architecture and urban planning in defining new habitat models. In 2016, she collaborated with PRIN (Project of Significant National Interest) "Re-cycle Italy", in the context of "Recycle fragile territories", developed by the University "G.d'Annunzio" of Chieti-Pescara, on the themes of the reuse of abandoned urban fabrics.

Symbiotic Data Platform

A Receptive-Responsive Tool for Building Thermal Comfort Optimization

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Synopsis

By the on going research project: 'Symbiotic Data Platform', the main objective is to combine the existing technologies (which are; Building Information Modelling and Internet of Things), and existing data to formulize an upgraded network and make use of the floating information for optimizing the building energy performance, the user satisfaction and ambiental quality, as well as enhancing productivity, energy efficiency and sustainability. While proposing the platform, the objective is to empower the user by their '*own*' data flow.

The main aim is to create '*Real-Time Information Models*' that takes reference from collected data from the sensor and using the existing information form BIM. The real-time data and the BIM data can be monitored, or used as a control factor for decision making as well as automation for the smart environments. Even though the platform can address various fields on a conceptual framework, yet, to simplify the testing of functioning, this paper will only focus *on the thermal qualities and user comfort* regarding the temperature data.

On this paper, the research focuses on the data collection prototype, the current under development stage of the interface, and the implication phase of the '*Symbiotic Data Platform*' and as well as it discusses further stages of the project.

Key words: BIM[1], IoT[2], Responsive Architecture, Interaction, Building Thermal Comfort Optimization.

[1] Building Information Modeling
[2] Internet of Things

1. Introduction

'*Symbiotic Data Platform*' is an interdisciplinary research project, which includes Building Information Modelling, interaction, computation, data mining, sensor technologies, modelling and simulation, architectural and engineering vision and, social studies' insight. Main focus and objective of this paper upon the platform is to analyse the occupant behaviour regarding to EBC – Annex 66, Definition and Simulation of Occupant Behaviour in Buildings (EBC, 2013) and to optimize the satisfaction, comfort level, energy efficiency and the ambient quality of the space, by '*taking benefit of the existing BIM model of the building*' and combining this information with '*real-time data*'.

The platform uses the **real-time information models** to create interactive environments. As the term 'Interactive Architecture' indicates, those models "include contributions from the worlds of architecture, industrial design, computer programming, engineering, and physical computing." (FOX & KEMP, 2009) By the collaboration of the disciplines with the contemporary understanding, adapting the architecture to the conscience of the modern worlds' necessities and the users expectation is the design thinking behind the project. "The concept of embedded intelligence in buildings is not new; rather what makes it currently possible are cheap digital sensors, computer power to handle big streams of data, and the development of software specifically developed for on-going operations and maintenance of buildings." (KENSEK, 2014) Since the technologies of sensing and data collection became eligible and accessible, the design research that corresponds to digital data collection also augmented. Additionally, by the accurate data, the research quality also shows significant increase.

The significance of the research is to take benefit of the massive existing data of material, location, energy analysis, cost and function information for further – interactive use. This objective addresses both lean construction and sustainable environment concerns due to energy efficiency, material and digital means.

2. The User

Symbiotic Data Platform is not a design tool. The focus is the switch the potential use of BIM from being just only for the practitioners of construction industry to address the occupant of the building, by creating a new profit field for the future.

By combining two existing technologies and creating an interactive network, which would be operated by the '***occupants/citizens'***, will create a new stage for BIM, which is '*the 7th stage: **interaction**'*. The highly detailed model of the built environment will be used in daily life, by the occupant, without requiring deign or engineering or modelling knowledge. People would be able to access the necessary information through the platform thanks to the existing BIM Model, for their own benefit of energy efficiency and comfort optimization.

On a further stage, the platform would link the facilitated data from the citizens, and crate a more advanced network for urban usage, addressing public issues.

3. The Prototype

The proposal is creation of 'Real-Time Information Models' to control the user data by blending BIM with IoT. The proposal is introducing an 'interactive // occupant - operated BIM Tool'. To do so, the first attempt to test is the 'Prototype I'. This prototype collects the body temperature data by only surfaces, to collect real-time relation with existing thermal condition of the space. By the hardware, the sensor collects the body temperature of the user 'passively, by some time periods,' and the algorithm, checks if any change has to be done to stabilize the desired & personified thermal comfort level. Aim of the prototype is, visualizing occupant behaviour and controlling the optimum comfort of the occupant and enhance energy efficiency and productivity.

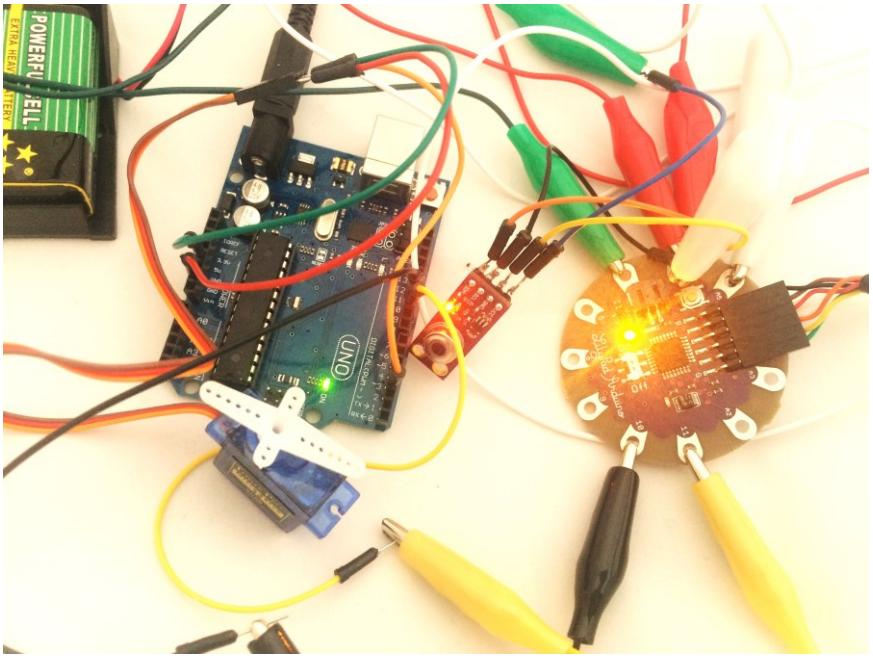

Figure 1.

The main objective to design a personal data collection device is to define the 'real-time data tracking' stage and to create '*human to machine*', '*machine to machine'*, '*machine to human*' and '*human to environment*' interactions. The prototype scale is focusing on simply the thermal comfort. Collecting the data, which is, *'thermal qualities'* in this paper, is processed by the '*Data Tracking Device*' Prototype 1. The significance of this data collection prototype is the reason that the user data collection. The collected data is used for personalizing the thermal quality of the private space within the real-time crosscheck that is provided by the IoT system, and the BIM verification.

Hardware of the prototype includes Arduino Lilypad Main Board, Arduino Lilypad Xbee Shield , (2x - XB24C - ZigBee Connection), MLX90614 Non-Contact Infrared Temperature Sensor Module , 2x - Xbee Explorer Modules, GPS Module, cables, battery holders and coin cell batteries, Arduino Uno Board, 2 Servo Motors, a computer and a smartphone.

The application will collect real time data of body temperature. Following the data collection, the program will analyse the environmental comfort qualities, and

adapt the personal real-time data to the existing ambient situation. The variables are BIM - material data of the building, body temperature, environmental thermal analysis, HVAC types and efficiency, daily energy analysis. The output of the algorithm is the users desired thermal quality, and the modification of the HVAC according to an automated platform through the integration of BIM and IoT in real-time.

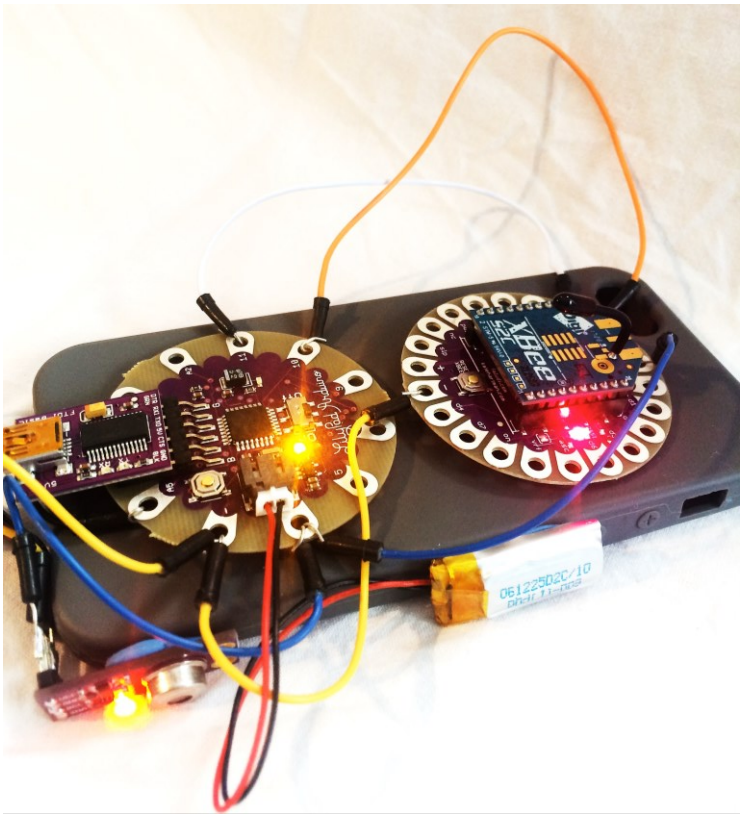

Figure 2.

The device have been designed as a smartphone cover, yet could be used as any other wearable when its detached; since its lightweight and simple. It can connect both the smartphone and the main computer. The device simply collects the users body-temperature within 10-minute time lapses. Every time that the user holds the smartphone, is a passive data collection for the platform. The data constantly get uploaded to the system. Additionally, the user can monitor and visualize the collected data, as well as the energy usage datasets, the 3D BIM of the private space and also the real-time mapping of the energy analysis. The prototype and the algorithm working vice-versa will stabilize the energy usage, enhance productivity, optimize occupant satisfaction, create a sustainable solution and act as a responsible factor in contemporary world.

4. The Platform

By this platform, the building can feel and react to the current thermal condition and relatively; what the occupant desires regarding to that, by thermal comfort means. Since the data-flow constantly updates the HVAC system, without the user giving commands of making manual changes; the house can adjust the optimum thermal state for the user.

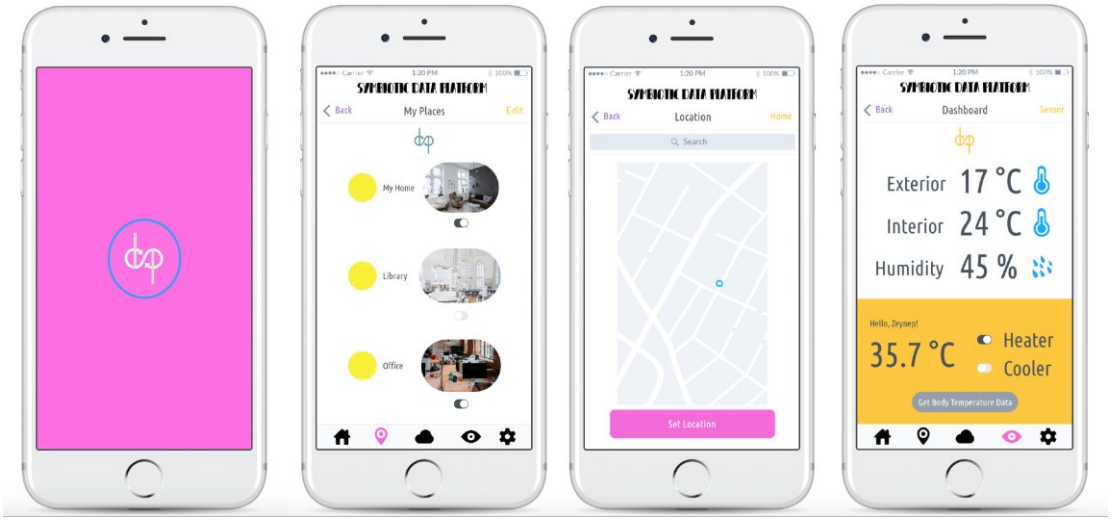

Figure 3.

5. The Interface

As it is coined in BIM Handbook (EASTMAN, C, TEICHOLZ, SACKS, & LISTON, 2011) that, BIM enables the designer and the engineers 'virtually' construct the building. Within this new way of working, the ACE[3] industry had an advance technique for analyse, document and manage the project. Currently, at Europe, all the countries have the BIM adaptation procedure and BIM regulation in order to construct and register a building in legal means. Regarding the fact that by mid 2000's, the AEC Industry will apply the total shift on design thinking, and will adapt to BIM. As a consequence, the documentation of the built environment will be available for further use. The municipalities will have the documentation as BIM Models, and those data will be available upon request by practitioners when needed. As a consequence, BIM models holds giant amount information in digital means, but those data won't be used actively when the life starts inside of the buildings. 'Symbiotic Data Platform' aims to fill this open gap by creating a link between existing information and real-time data when the life is happening around the built environment.

Main research objective of the under-construction interface of the platform is to investigate on making benefit of already existing BIM files to extract construction details and information, to a new algorithm that will blend real-time weather/thermal information and also, the users' body temperature data by sensor interaction. The custom algorithm of the platform aims to interlace these variables, to create a real-time time energy analysis, which thereafter perform

[3] Architecture – Engineersing – Construction

the thermal comfort optimization and energy savings by making the physical adjustments in the HVAC System of the specified space.

The Variables of the on progress 'Prototype 2' algorithm are as following:

1. BIM Extracted: Construction materials, opening details, location and orientation and insulation materials coefficients' data (R-Values)

2. Outdoor Weather Information from GPS

3. Indoor thermal information from indoor weather shield.

4. Users' body temperature data form the 'prototype 1'.

5. Users' current location from 'prototype 1.

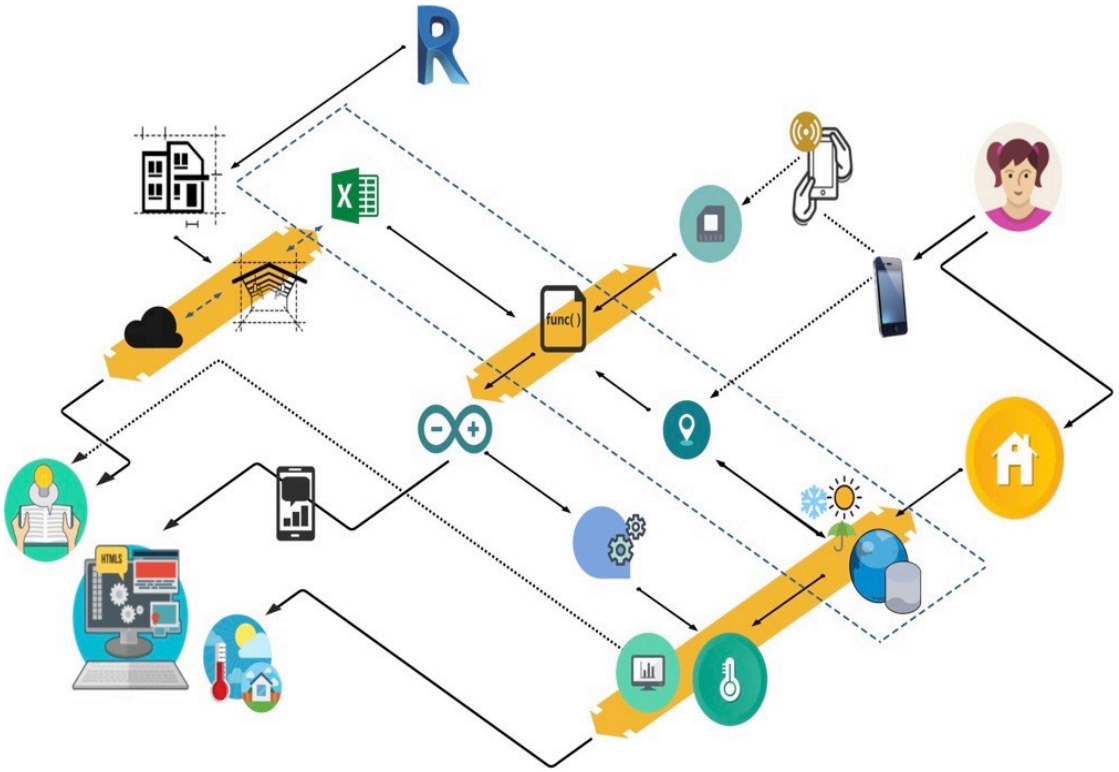

Figure 4.

6. Results & Discussion

By programing the Prototype by Arduino IDE, the following results of the interaction is successfully achieved. Apart from the IoT prototype, the BIM Integration is still on progress. Unfortunately there are some technical deficiencies of the prototype at this moment of the research; which are; the GPS Module cannot give very precise information indoors regarding exact coordinates of the user, and it is hard to locate the user in the rooms, and the X-Bee Module is very sensitive for the everyday use and the wireless connection is generally problematic.

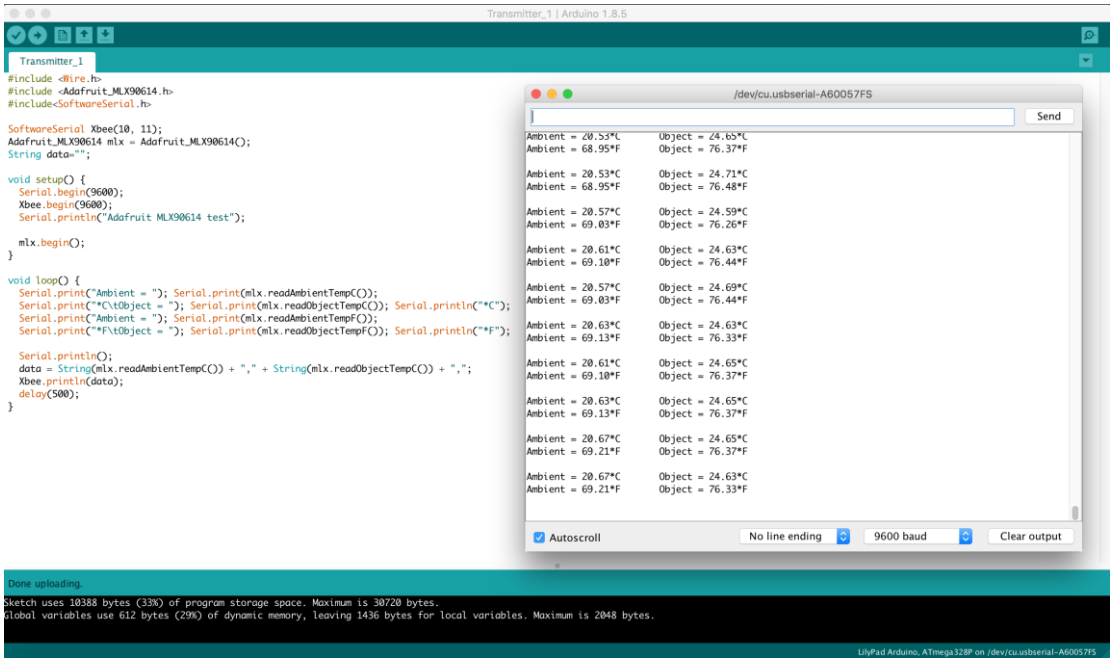

Figure 5.

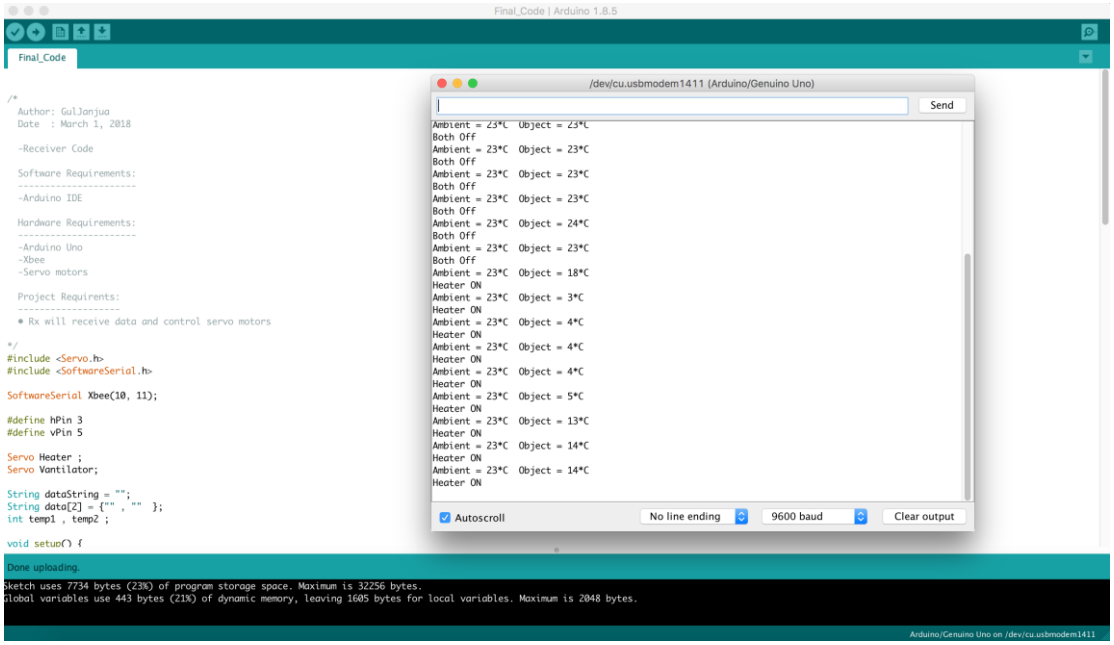

Figure 6.

7. Further Research

On a greater scale, the project can be developed as an urban interface, to create an information cycle/network between the smart homes to the smart cities by a new understanding of citizen participation. That project has a bottom-up theory, which is "*not making the city 'smarter' but making the user more active and the environment 'responsive'*."

Within '*Responsive City*' context, the Symbiotic Data Platform is explained by its possibilities of future research. The extension of this platform is explained

in a symposium proceeding, under the title of *'Active Public Space'*. (BIRGONUL, COCHO-BERMEJO, & SARRABLO, 2018) The objective of the proposed platform in urban level, is to create intelligence in the society regarding urban values and empower the citizen with collective values. Sharing data by the platform will create a stronger community network depending on the increase in productivity and efficiency in daily life of the citizens and will also upgrade the citizen participation in urban field. It is a promising project on the way of introducing a responsive city system by multi-ended outcomes. Simplifying and monitoring the existing data by the platform, will be the new solution for productivity, efficiency and sustainability in urban development.

The final product will be the end of the process by proposing a collective interface that addresses the contemporary concerns of the society. The approach of the research proposes the platform to achieve a new generation urban understanding, referring to the existing theories & computer programs to point out a new possibility to use BIM data.

8. Conclusion

Taking the reference of the results achieved from the Prototype I, the research is being developed by investigating the possibilities of adding BIM data to the prototypes' code, for mutual data interaction through BIM database and real-time information.

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Biography

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Urban Design vs. Science of cities

From the Digital Gap to the AI Barrier

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Synopsis

Our future cities design challenge will be to deal with unpredictability and cognitive ethics derived from A.I. implementation at a wide range of scales. When AI machines are dealing with social-cognitive dimensions previously dealt through human-decision making, transparency of the algorithm as well as it analysis easiness in situations of un-appropriate behaviour become main issues.
Added to that challenge, as Architects and Urban Designers we have a very particular challenge added to the already mentioned one:dealing with the process of changing from the Digital Gap to the AI Barrier for our built environment inhabitants.
Main pillars for avoiding the appearance of the A.I. barrier will be discussed through this research taking into account most recent investigations and ethical debates regarding A.I. procedures implementation on our routines as a society.

Key words: Digital Gap, Artificial Intelligence barrier, cognitive ethics, Urban Design.

1. Urban design versus design for citizens

Using an innovative and interdisciplinary approach Jane Jacobs (Jacobs, 1961) set the grounds of cities as problems of organized complexity. Until then, academics had defended the idea that any urban planning problem could be perfectly described with a clear definition for all of its variables, classifying it as a problem of disorganized complexity or even as a problem of simplicity[1].

For the first time, thanks to the emergence of Big Data and the Internet, we are able to properly study cities as the complex systems Jacobs described, using the interaction between citizenship and data.

In the current city design scenario the term “Smart City” has recently emerged referring to a series of characteristics inherent to the idea of cities as complex systems, but it has not yet been well defined. We do believe that it is of fundamental importance that a proper term—that will imply complexity of research methods and intelligent technologies implementation—should be defined for our new city design procedures.

Truly Smart Cities, “A.I. Intelligent cities” will be the ones using technology for building a new common decision cloud.

Although humans are natural sharers, reports of participation failures in the first experiments. Reasons might be anonymity, but also the lack of results in a human life time duration can influence. Just citizens that understand its impact are currently enrolled. Moreover, only some clusters of societies well located in the world have access to technology.

The main problem this new protocols have generated in our cities nowadays might be: the **Digital Gap**.

2. From the Digital Gap to the AI Barrier

Prof. Carlo Rati, states in the AMS presentation manifesto, that technologies allow for a new approach in the study of the built environment. As the tools for understanding and impacting the urban spaces emerge, the way we operate in and on the city is radically transformed. As he puts it, we are creating: a new, sociable, networked urban ecology.

One of most ubiquitous though among citizens is that AI will strongly damage society through job losses. Major damage will be done through the enhancement of society gap between the more disadvantaged citizens in access to technology. Work loss worry or failing of very advance systems take in Architecture and city design a second position in the most urgent topics to deeply develop.

On the other hand, some experts as Dignum defend that our main worry should be the transition process, like in the self-driven car example.

[1] Within the three types of problems in scientific thought, problems of simplicity, problems of disorganized complexity, and, problems with organized complexity, Jacobs argues that, despite normally being treated as problems type 1 or 2, cities are really problems of the third type

3. Cities, Data and A.I.

3.1. The A.R.T. of A.I.

Dignum's A.R.T. of A.I., Accountability, Responsibility and Transparency, must be one of the pillars of the new city design methodology model. Also, Bostrom, adds to Dignum's A.R.T. four more terms regarding not only data but also algorithms, (auditability, incorruptibility, predictability and the non-harm tendency), being all criteria that is considered needed by any A.I. trying to replace human social judgement.

Design A.I. dealing with social-cognitive dimensions previously performed by humans must imply not creating more disadvantaged people in society.

Following the basic ethical rules, veracity, privacy, confidentiality and fidelity, should be the second main pillar for designers.

3.2. Well-being vs. quality of life

In 2007, at the "Beyond GDP conference" and, afterwards, in 2010, the Stiglitz report, state that the time has come to include in our measurement system not only economic production but also well-being and all its dimensions.

However, should be taken into account that Ethical considerations for A.I. have little resistance to economic market force. As stated by Juna Heikkilä: society cannot hold progress (association, 2017). Also, Bostrom agrees about advancing too fast as a society and the possibility of making discoveries that are clearly not beneficial for our society (Cortés, 2017).

3.3. Three Levels of Autonomous Systems

As Virginia Dignum describe them, the first type will be the one able to achieve your goals, the second type the one able to decide your goals and the third one able to find the motives for deciding your goals (Dignum, 2017).

So range of autonomy to be included in the design must be one of the main topics on the debate brief. Within the Architectonical design field, praxis has been focussed in developing small pavilions as theoretical samples for proving very focussed theoretical proposals.

4. Conclusions

A.I. and the possibility of the human empowerment are basic research to take into account. This possibility will increase in a way so powerful that, probably, it will need a regulation based on the new changing boundary between people and things.

On top of the main two pillars mentioned, it will be also needed to be considered the concept of well-being in all its dimensions so errors committed causing the already existing Digital Gap are not repeated.

Principle of Ontogeny non-discrimination on the other hand defends that if two beings have the same consciousness and functionality and they differ just in the way they came to existence, then it should be considered that they have the

same moral status. That principle should apply between humans with different accesses to A.I. technology too.

"…we are unlikely to construct a coherent ethics such that it is ethical to afford A.I. moral subjectivity. We are therefore obliged not to build A.I. we are obliged to" (Bryson, 2016).

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Mapping the sharing's 'lumps'

How economic categories help in reading a new urban geography

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Synopsis

Today the fragmentation and complexification of needs no longer fins satisfaction nor in the public welfare system nor in the private market. This condition has opened to the rising of collective and cooperative sharing practices to balance this gap and to build new connections among citizens and with the space. The phenomenon has been observed in several European cities and consists of a wide variety of experiences able to modify the space building a new urban geography made of lumps characterized by flexible boundaries no longer inscribed in traditional dualism private-public. To understand the complexity of this urban geography it seems appropriate to refer to more stinging categories coming from the economic discipline.

Key words: Sharing, property, practices, morphology, lumps.

1. Sharing and self-made practices

Today the consolidation of some past requirements (safety, privacy, self-representation) and the rising of new concerns (ecology, sustainability) have moved toward a rising of new needs related to the evolution of the social and cultural system (Sennett 1970; Bauman 2000; Amin & Thrift N. 2002). These more fleeting and complex instances does not seem to be completely reflected in the public welfare system neither in the private market. Indeed this condition looks like to be balanced by an emerging of practices and experiments of sharing and self-made. A change, based on new connections (not just among people but also between them and the space) built on local resources and not referred to the familial, cultural, or religious relationship rather by affinities (Ambrosini 2005) and proximity. This thickening of relationships (Bianchetti & Sampieri, 2014), means not just involving people in participation processes, but also an acknowledging of the value of the associated actions to the collective wellbeing. Within these experiences it seems to resist a reference to the collectivity based on heterogeneous and labile bonds as the result of that 'pragmatism of collaboration' that on the one hand overcomes the initial forms of ideoritmia (Barthes, 2004) or extimité (Lacan J., 1994) but on the other one set up an intermittent and protean social system.

The phenomenon has been observed in several European cities – Madrid, Torino, Napoli, Bruxelles I.e.[1] - and consist of a wide variety of experiences able to built small and simple societies (Durkheim, 1893) moreover without close adhesion or participation rules and sometimes able to shape small or big modifications of the space.

The reference to cooperations forms and to local resources (Bagnasco 2001) is not just an issue able to give back to the civil society the capacity and responsibility of self-organization in the search for well-being or useful to define the common goods, but are also matters suitable to improve the urban quality (Munarin Tosi 2014).

2. Sharing and self-made spaces

These practices in their rooting and repeating on the ground define more resilient places. The proposed spatial forms are frequently mutable and easily characterisable, outcome of an 'incremental' evolution (Cottino, 2009) and of 'cross interactions dynamics' (Crosta 2007). Indeed the transformation of the spaces, as well as the social structures, are rarely the result of conventional subsidiarity politics neither of top-down or bottom-up strategies. Furthermore these experiences, thanks to the relationship between social life and spatial organization, laying the basis to suggest a new urban geography made of partitions. However, we are not speaking about well defined and homogeneous neighbourhoods rather we are thinking about 'lumps'. Spatial and social structure, characterized by blurred, sometimes straddled, boundaries able to evolve according to needs and resources define adaptive spaces, protean in

[1] Some researches have collected many of these experiences: 'We Traders', organized by the Goethe Institut, or 'territori della condivisione' coordinated by Cristina Bianchetti. In any case the phenomenon is growing continuously, sometimes supported by local municipalities or national policies

time and in space, partially connected and partially autonomous among them but rarely able to build polycentric urban networks.

These lumps, on one hand, suggest recovering the idea of homogeneous social groupings, as structure useful to describe a morphology of space, and on the other one underline a gap with the trend to unify local partitions to reduce the administrative efforts. However recognizing their existence does not mean being able to uniquely identify their form or consistency, their borders or identities. In fact, these aggregations are rarely coincident with functional or administrative traditional partitions and hardly inscribed into polarised categories (private – public, indoor – outdoor) traditionally used to describe the urban types. Furthermore they describe a geography made of fragmented 'bubbles' (Sloterdijk, 1999), not complementary, in shape and extension, of the urban fabric. Thinking the urban tissue as a 'foam' or as a 'sponge' (Sloterdijk, 2004) needs a changing perspective in methodology and in the identification of categories useful to understand the new complexity.

3. The morphology of property

The identification of this fragmentation and articulation of spaces suggest revising the categories used to describe and map the urban tissue as well as of the methodology to analyze and depict the results. Furthermore, the issue opens with the investigation of several aspects. One of them is the property and its role in defining the space. Indeed this rising phenomenon seems to define new balances no longer uniquely expressible in the private-public dualism but related to a broader idea of the common (Lefebvre, 1968) that more freely weaves collective, individual and public spheres. An integrated approach, more connected to economic discipline, opens to a wider range of categories with clearer definitions. A first categorization (Mas-Colell, Whinston & Green, 1995) identifies types of goods according to their feature of rival or excludable: private (rivalry and excludability), Club (excludable and partially rivalry) commons (rival and not excludable) and public (neither excludable nor rival). Another taxonomy could identify several property specifications (O'Sullivan, 2007) to identify who has the capability to access or to restrict access (exclusivity), or if someone can manage it (management), or modify and sell it (alienation). The drawing, and the comparison, of maps, realized using such categories could describe more accurately the fragmented urban tissue previously described. Similar issues have been previously faced using big data (Space syntax i.e.) or using clustering models (Hidalgo 2015 i.e.) or suggesting direct observations on the field (D.P.A. 2013). The approach that we would like to pursue is based on a morphological mapping of such categories in order to identify aggregations, fragmentations, gaps through the achievement of relevant sections around meaningful nodes and experiences previously identified for their capability to realize aggregations: collective market, purchasing groups, aggregative space etc.

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Biography

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Street Lives in Ancient Chinese Capital City

Based on the Painting of Along the River During the Qingming Festival

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Synopsis

Street is a key public space in the city, representing and being influenced at the same time by different history and culture of a country, city or region. This research is inside the team of "Transitional Morphologies Research Unit" (Politecnico di Torino and Southeast University Nanjing), by introducing local languages and customs from the perspective of Chinese, tries to explain the effect to the streets in an ancient Chinese capital city by residents' daily life, especially the conception and behaviour. Analyses are not only based on iconology, typology and morphology, but also cultural anthropology and ethnography, aiming to provide a different view of Chinese urban streets. Facing the contemporary identity crisis of Chinese traditional settlements, the work contributes to take the edge of cultural gaps in urban heritage and planning.

Key words: Public Space, Chinese Traditional Settlement, Urban Heritage.

1. Street, as a Public Space

Streets are, in broad terms, the public and democratic space of the city. Furthermore, “streets that cater to the daily functional, social, and leisure needs of people have been positively associated with economic growth, physical health, and a sense of community” (Vikas Mehta, 2013). Public space, which is one of the most important aspects for residential life, should not be neglected during the protection and reconstruction process of historical and cultural settlements.

1.1. Street: A Space of Identity

“For urban morphologists, it is widely accepted that cities must change, one of the key problems is how to cope with these changes while retaining older areas and structures in which past generations have invested so heavily” (Vitor Oliveira, 2016). Under the contemporary conditions of urban design “the character of the new architecture (…) cannot be the neo-international style of most of the contemporary Asian architecture” (Marco Trisciuoglio, 2017). In recent years, the increasing and impending need for the architectural theory was linked with “The overwhelming expansion of Chinese cities” (Shiqiao Li, 2014). The question of ‘identity’ should also be under consideration, in order to evaluate the most appropriate architectural forms in the urban heritage settlements of Chinese city.

Scholars nowadays are focusing on the historical traces in urban area, which can recall the memories of ancient cities. However, in reality, “the Chinese urban ‘street’ can be defined as the ‘street culture’ of a traditional city in the context of the contemporary city” (Shi Jian, 2008) which contributes to the attraction of a city.

1.2. Transition of the Chinese street

The macroscopic forms of the ancient Chinese city layout and space mainly reflected the will of the ritual system and rulers. On the micro level, many specific features of ancient Chinese cities reflect the long-term and slow evolution of the city caused by changes in daily life. The “layout of symmetry, centrality and concentricity symbolizing the position of the throne, is in fact related to a space of hierarchical domination of the throne in social and political transactions” (Jianfei Zhu, 2003).

In terms of urban development in Chinese history, starting from the Northern Song Dynasty, the boundary between residential areas and commercial areas are completely broken. Shops can be set up on the street instead of taking part in a centralized and closed area. From then on, the street scale evolution has been strongly linked with the public space nowadays.

2. Reading Paintings: An Interpretation of Street Lives

Although, morphology and typology are widely used in the study of urban heritage, the research about urban space can also be based upon comparing

iconographic studies read and treated in a comparative way. The street lives presented in paintings are able to “show a fresh diversity” (Blundell Jones, 2002). Here, for example, details are extracted from *Along the River During the Qingming Festival* [清明上河圖], which is describing the daily life along a river of Bianliang, the capital of China in Song dynasty (Fig. 1), to do a comparative study with the paiting The Effects of Good and bad Government (Fig. 2), which is also a very iconic and represent an official record of street lives.

Figure 1. Zhang Zeduan, Along the River During the Qingming Festival [清明上河圖], painted scroll (24,8x528 cm), Source: The Palace Museum, Beijing, Song dynasty (1085–1145).

Figure 2. Ambrogio Lorenzetti, The Effects of Good and bad Government, Source: Salon of Nine or Council Room in the Town Hall (Palazzo Pubblico), Siena, 1338-1339.

This kind of typical official pictures helps us to reconstruct a lively street area with a strong scenography effect. The shape and size of urban streets are depicted with abundant folk activities and specific details of courtyards and housing. Moreover, the public spatial nodes, such as corners and squares, are occupied by local markets, street foods and festival celebrations.

But which cannot be ignored is the motivation of covering negative influence for the Chinese ancient government, that means, inner essence should be read cautiously. Meanwhile, discussing “the sense of presence”, Tilley wrote: “it cannot be known or understood simply from publications, from maps, diagrams, photographs and descriptions, because these are only representations. As representations they necessarily fail to convey a bodily understanding of prehistoric remains” (Christopher Tilley, 2004).

3. Different Conceptions towards Public Space

The comparative study has introduced several questions as following, “How does this strange mixing up of ‘the lawful and the human, the objective and the subjective’ (Duan Jin, 2016) effect architectural forms?”, “What are the definitions of ‘public’ against ‘private’, according to western and eastern cultures?”.

The capital plan of Nanjing (1929), including several projects like Nanjing Jinling Women's University, which were designed by an American architect Henry Murphy, is a good example to show the misunderstandings of western architect towards public spaces in Chinese city.

4. Research Objective

As Rem Koolhaas said, “without cross-border, there is no innovation”. The hearsay and cultural prejudice are the main reasons why Western architects misunderstand China’s architectural design and culture. Overall, the aim is to explore the applicability of Western urban design concepts to Chinese traditional settlements and provide a framework of reference for assessing urban heritage and renewal. The anthropologic approach to the study of the dynamics of urban development, in Asia as well as in Europe, can be a great staring point for a new season of urba design, fruitful and respectful of cultures and traditions.

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Resilient Urban Green Infrastructure

Nature-based solutions through multi-functional planting designs

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Synopsis

In urban environments, vegetation is constantly under a wide range of stress factors that undermine the plant species making them more susceptible to diseases and pests attacks. To achieve and maintain a healthy and effective green infrastructure, it is increasingly urgent to find nature based solutions to deal with this problem, as the use of pesticides is more and more legally limited. The aim of this research was to contribute to solve phytosanitary problems of vegetation in the urban context with planting designs that improve species diversity and include plant species attractive to beneficial insects. The research was focused on street trees to provide guidelines for the planting design within the UGI and within the street context. An extensive literature review provided a conjoint of species and guidelines which could be applied, either to reduce pest levels or to prevent future attacks.
Regarding the planting design within the UGI context, a new and more diverse selection of street trees can be proposed to break the connectivity among pests and diseases without compromising the beneficial connectivity of the UGI.
Regarding the planting design within the street context, diversity can be integrated below the street trees using additional layers of vegetation and using plant species that can attract beneficial insects by providing host plants and, consequently, several nectar and pollen resources and refuges for unfavorable climatic conditions.
Although this research was focused on street trees, results can also be extended to other urban green spaces in the future. Healthy plant species are imperative to maximize the UGI performance and its capacity to deliver services. The inclusion of target species in the urban environment to prevent phytosanitary problems or to improve the overall phytosanitary condition of the vegetation can be one step ahead for the future of more resilient cities.

Key words: Urban green infrastructure, planting design, nature based solutions, biological control, street trees.

1. Introduction

The Urban Green Infrastructure (UGI) must be healthy and resilient to be able to efficiently deliver the services that we all need. This can be a difficult task because in urban environments vegetation is constantly under a wide range of stress factors (e.g. pollution, higher temperatures, compacted soil, etc.) that undermine plant species making them more susceptible to diseases and pest attacks (Gerstenberg et al., 2016). This problem can be particularly relevant for street trees. First, street trees are more exposed to extreme environments and urban pressure. Additionally, street trees are important ecological elements that connect the UGI, so if the trees have phytosanitary problems these important links can be compromised and act as vectors of diseases and pests. Therefore, to achieve and maintain a healthy and effective UGI, it is increasingly urgent to find nature based solutions to deal with this problem, as the use of pesticides is becoming legally limited.

The impact of pesticides in the environment and human health demanded the search of alternative methods to control pests. Biological control ascended as a way of limiting the damage caused by a pest through the deliberate introduction of its natural enemies (The RHS, 2002). Insects that are natural enemies of pests are usually denominated beneficial insects and can decrease pests' population. Besides the fact that biological control is cheaper than other methods, it is not harmful for plants and human beings. This method is being developed and improved in the agriculture field, but we believe that it can also be useful in the urban context, particularly to deal with the most common pests that attack ornamental plants. According to Pauleit et al. (2002), aphids were listed as the most common pests that affect the urban vegetation and, for that reason, this research was focused on this specific pest. Aphids are sucking insects that develop in the leaves and suck the sap from the plant, provoking several negative side effects such the decrease of the plant's vigor and the production of honeydew (The RHS, 2002).

Traditionally, Landscape Architecture planting designs select species based preferentially on their aesthetic characteristics. New and multi-functional selecting criteria based both on the ornamental and ecological value of plant species, using, for instance, biological control knowledge, can be the answer to (re)create healthy plant communities. This way, the aim of this research was to contribute to solve phytosanitary problems of vegetation in the urban context with planting designs that improve species diversity and by including plant species that attract beneficial insects. The research was focused on street trees to provide guidelines for the planting design within the UGI and within the street context.

2. Methods

This research started with a literature review to find which are the natural enemies of aphids and which are the plant species that attract these natural enemies. Then guidelines for the planting design were explored at two levels: 1) planting design within the UGI context and 2) planting design within the street context.

3. Results and Discussion

Several insects such as ladybugs, hoverflies and lacewings are natural enemies of aphids (Coutinho, 2007). The following table (Fig. 1) displays a short version of the information collected in the literature review (Gupta et al., 2012; Kopta et al., 2012) regarding plant species that can attract these natural enemies.

Scientific name	Family	Plant type	Native	Exotic	Natural enemies' attractiveness		
					Ladybugs	Hoverflies	Lacewings
Abelia x grandiflora	Caprifoliaceae	Shrub					
Achillea millefolium	Asteraceae	Perennial					
Anethum graveolens	Apiaceae	Annual					
Armeria maritima	Plumbaginaceae	Perennial					
Calendula officinalis	Asteraceae	Annual					
Euryops chrysanthemoides	Asteraceae	Shrub					
Helichrysum italicum	Asteraceae	Shrub					
Lobularia marítima	Brassicaceae	Annual					
Lavandula angustifolia	Lamiaceae	Shrub					
Malva tournefortiana	Malvaceae	Perennial					
Rosmarinus officinalis	Lamiaceae	Shrub					
Spiraea cantoniensis	Rosaceae	Shrub					
Sambucus nigra	Adoxaceae	Shrub					
Teucrium fruticans	Lamiaceae	Shrub					
Viburnum tinus	Adoxaceae	Shrub					

Figure 1.

3.1. Planting design within the UGI context

Street trees design often results in uniform rows of a single species (Gerstenberg et al., 2016). Besides, usually more than 50% of the trees planted in the streets belong to only a restrict number of genera (e.g. Platanus sp., Tilia sp., Populus sp.). Although this uniformity is very useful for Municipalities and considered visually attractive by people, it may also represent an ecological concern. Species diversity is extremely important for the resilience of the urban vegetation and particularly to improve the resistance of trees regarding pests and diseases (Pauleit et al., 2002). This way, the selection of species needs to be rethought to address this problem and needs to consider which trees are more susceptible to pests and diseases. For instance, the Plane (Platanus sp.) is frequently present in streets and reported as one of the most susceptible to pests in Southern Europe (Pauleit et al., 2002).

Fig. 2 illustrates a new and more diverse selection of street trees that can be proposed to break the connectivity among pests and diseases without compromising the beneficial connectivity of the UGI. This way, streets can have various species of trees that are interspersed in the urban fabric, forming a pattern that can be replicated throughout the UGI.

Figure 2.

3.2. Planting design within the street context

Within the street context there is also ways of improving the phytosanitary condition of street trees. Firstly, it is essential that the tree is installed with enough space to grow. An accurate implementation of trees in the tree pits or in green spaces along the sidewalk can also mitigate the negative stress factors that make vegetation more vulnerable. Moreover, diversity can also be integrated below the street trees using additional layers of vegetation (shrubs and herbaceous species).

Fig. 3 illustrates a diverse set of plants that can be installed below the street trees, using the plant species that can attract beneficial insects (Fig. 1). Flowering shrubs and herbaceous such as Helichrysum italicum, Lavandula angustifolia and Spiraea cantoniensis have high ornamental value and can increase biodiversity levels. Besides, these species will promote the presence of beneficial insects by providing host plants and, consequently, several nectar and pollen resources and refuges for unfavorable climatic conditions (Alignier et al., 2014).

Figure 3.

4. Conclusions

Although this research was focused on street trees, results can also be extended to other urban green spaces in the future. Healthy plant species are imperative to maximize the UGI performance and its capacity to deliver services. Evidences from literature review can better inform the design process. The inclusion of target species in the urban environment to prevent phytosanitary problems or to improve the overall phytosanitary condition of the vegetation can be one step ahead for the future of more resilient cities.

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Biography

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High Altitude Urbanization

Developing Strategies for New Territories

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Synopsis

High altitude urbanization in Europe refers to alpine architectural or infrastructural projects and territorial scenarios developed over the altitude limit where the natural environment enhances permanent living conditions.
The research starts from the first approach toward European highest mountains, on a primitive and temerarious phase, analysed as an anthropological phenomena, covering the basic human needs for orientation and shelter, to the slow development of high altitude mountaineering culture, that ultimately turned into mass altitude tourism. Through tourism the paradigm changed, the highest European summits became development catalysts, under the mirage of adrenaline and adventure, in a still virgin and extreme environment.
The hostile and extreme high altitude zones have been transformed through new building and infrastructural technologies into a safe, reachable, exciting and global playground for everybody's entertainment. Alpine high altitude urbanization has recently intensified and modifies the landscape, enhancing the necessity of new sustainable territorial strategies.

Key words: High altitude, tourism, urbanization, infrastructure.

1. Premises

High altitude territories, where permanent living is no longer possible because of extreme natural phenomena, as low temperatures and lack of oxygen, have revealed a challenging background for architecture. In Europe, the highest summits have recently become magnets for an intense development of mass tourism, as entertainment providers.

The well-known summits Mont Blanc or Matterhorn/Cervino have polarized in their surrounding areas many new anthropic elements, from architectural objects to infrastructure, starting an unprecedented phenomenon of urbanization and temporary intensive colonization at high altitudes.

2. Short History of High Altitude Architecture an Tourism in Europe

In Europe, reaching high altitudes is a rather recent phenomenon. Till the XVIIIth century, the Alps were seen only as a source of danger and a territorial obstacle. The Romantic Movement transformed the way high mountains were perceived and disclosed the beauty of their landscapes. Scientist and artists reached and discovered high altitudes long before tourists. The first shelters, called temples of nature, were used for observation and contemplation.

In 1786 the mountaineers Balmat and Paccard reached the summit of Mont Blanc marking the starting moment of the heroic[1] mountaineering era. Then, the first rudimentary shelters were built on the Mont Blanc route. In this incipient phase, high altitude architecture was rather a primitive gesture, a basic relationship between humans and an unknown, hostile territory[2].

From a phenomenological point of view, alpine architecture insured an existential foothold[3], providing protection and orientation. High altitude shelters were positioned in strategic and safe locations, covering and controlling large areas, as a support and reward for the temerarious climbers.

Mountaineering became slowly popular and new constructions appeared at high altitudes. At the end of the XIXth century the Swiss Alpine Club started to question the opportunity of building in high mountains and the impact on the wild landscape. SAC created in 1886 a set of rules[4] for building in the mountains. In 1923 the Italian Academic Alpine Club had a first attempt to find a territorial solution to this new issue by equipping all classic routes with prefabricated bivouacs (Fig.1 – Forcella a Vu Bivouac, Marmolada), in order to eliminate the necessity for any other further buildings.

Nevertheless, high altitudes remained a dangerous zone, the access being limited to those who accepted to assume the intrinsic risks, train and endure Spartan conditions.

[1] GIBELLO, Luca, 2011. Cantieri d'alta quota. Biella: Lineadaria.
[2] MACHEDON, Ana-Maria, 2016. High Altitude Architecture – A link between Primitive and Global Architecture. In Between Scales. EURAU. Bucuresti: Editura Universitara "Ion Mincu". p.1099-1106.
[3] SCHULTZ, Christian-Norbert, 1984. Genius Loci: Towards a Phenomenology of Architecture, New York: Rizzoli.
[4] Réglement concernant les cabanes du SAC

Figure 1.

3. High Altitude Architecture and Mass Tourism

Winter sports brought an intensive development in the alpine resorts and the problem of urbanization and densification appeared in lower alpine zones. Still, high altitude areas were avoided by mass tourism for a long period.

The social paradigm changed once the concept of leisure through sports mutated into the necessity of glorious but safe personal achievements, to be praised by the personal entourage. A 2005 study[5] on the Swiss Alpine resorts revealed stagnation in alpine tourism, showing that mountains lost their attractiveness. This stagnation was followed by a significant decline in winter sports activities. The use of ski facilities decreased in Switzerland of 19.6%, from winter 2005/2006 to winter 2014/2015[6].

While resorts have reduced their magnetism, a new trend emerges: high altitude safe ¬¬adventures. New transportation facilities, from cable to helicopter, made suddenly high altitudes very accessible. The highest European peaks became catalysts for tourism. Mont Blanc summit is an almost compulsory destination and personal achievement for any individual once in a lifetime. A recent survey from Petzl[7] reveals that 35.000 mountaineers visit every year Mont Blanc.

[5] DIENER, Roger, Jacques HERZOG and Pierre DE MEURON, 2005. Die Schweiz Ein städtebauliches Portrait. Basel: Birkhäuser

[6] SONNETTE, Stéphanie, 2017. Pourtant que la montagne est belle… Tracés. no.1, p.6-9.

[7] www.petzl.com

Figure 2.

The new tendencies awaked the interest of architects for high altitude projects. They found a perfect territory for creating iconic objects and experimenting the latest technologies. A relevant example is the Monte Rosa Hut, built in 2009, designed by an extended team of Swiss engineers and architects. It was the first altitude project that involved a significant financial investment and scientific support. The result changed the vision on dwelling at high altitudes. The hut provides all needed facilities and transforms high altitude survival into a comfortable journey. Projects like Gervasutti Bivouac in 2011 (Fig.2) by Testa and Gentilcore closely followed the idea of providing comfort at high altitudes.

4. Territorial strategies

Alpine resorts have already faced the massive urbanization and densification problem. Mountains absorb a large number of tourists in a process of temporary colonization. Different territorial concepts have been studied for lower alpine areas in order to control the impact on landscape. A 2012 Ph.D. study[8] at EPFL proposes a linear strategy concentrating all touristic facilities along the road infrastructure and connecting them directly to cable transportation.

But the densification and colonization phenomena have moved from lower alpine zones and affect high altitudes. Transportation is one of the keys to the massive development. In the Mont Blanc area, cable transportation (Fig.3 – Mont Blanc Panoramic cable car) already touched the scale of a territorial complex network connecting different valleys, resorts, regions and even countries (Fig.4). The infrastructural nodes concentrate touristic functions and become incipient settlements at high altitudes, as Aiguille du Midi touristic complex in Mont Blanc Massif.

[8] PIÀ, Fiona, 2017, Stratégies de desification des villes en altitude. Tracés. no.1, p.19-26.

New entertainment functions are invented: the *Tissot Peak W*alk, a bridge connecting two 3.000m peaks, the *Glacier 3000 alpine coaster or the Pas dans le vide, a suspended glass box at 3.840m*.

Figure 3.

5. Conclusions

Next to the new, safe and exciting high altitude activities, mobility plays an essential role in the invasion of high altitudes. In order to limit the landscape alteration, a different territorial approach is needed. The new transportation technologies are the catalyst but could also be the antidote for the expansion phenomenon.

Through air transportation, the time spent at high altitudes can be reduced or even eliminated: someone could fly directly to or around Mont Blanc instead of physically crowding the summit surrounding areas. As long as high altitude peaks are the ultimate touristic goal, alpine resorts could be avoided in a further expansion by transforming the sea level cities in new “alpine” resorts.

The current research proposes as future strategic scenario to convert large cities like Milano, Torino, Grenoble, Genève or Zürich in multi-entertainment resorts and airports for the new type of tourists interested in seeing Europe’s most famous and iconic summits like Mont Blanc or Cervino/Matterhorn (Fig.5). Electric plains and helicopters, balloons or dirigible airships could provide a less invasive and disruptive types of air transportation adapted to high altitude wild landscape tours.

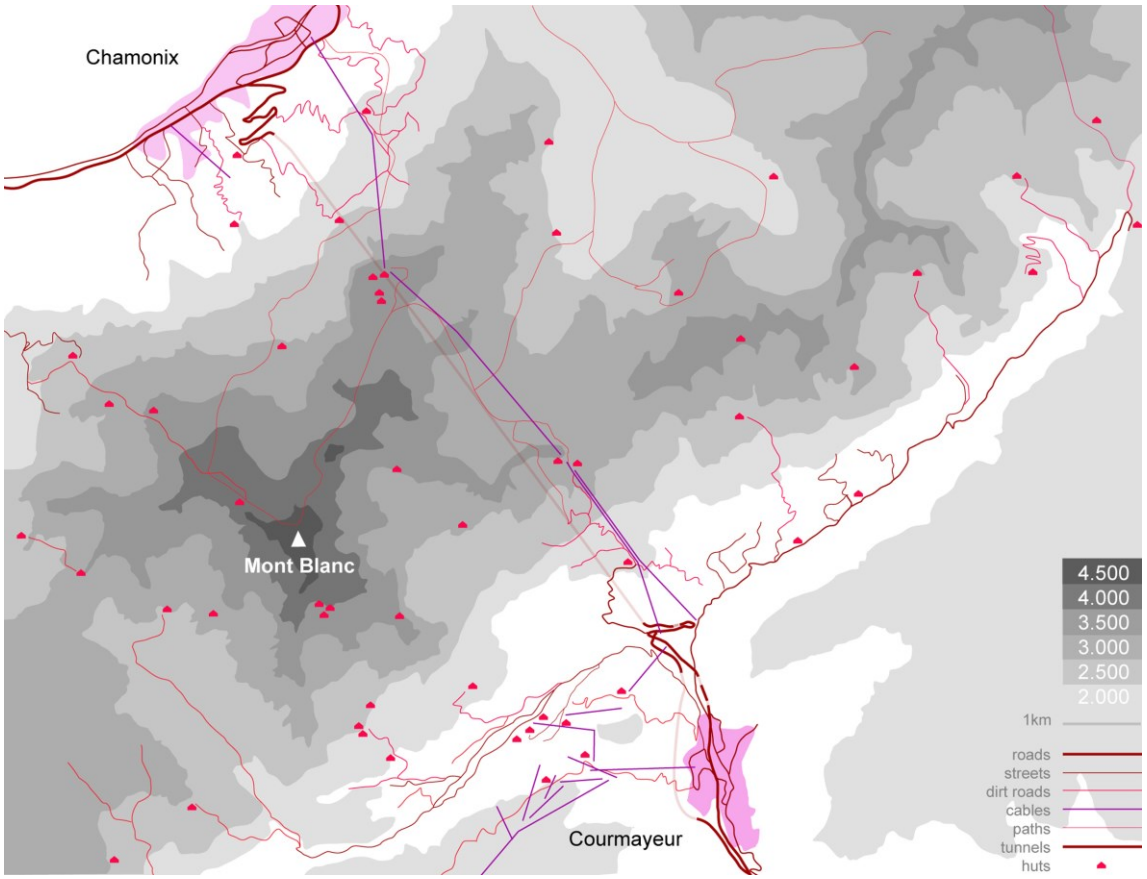

Figure 4.

Figure 5.

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Biography

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The diffused botanical garden begins in the parking lots

A new future for Valco San Paolo in Rome

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Synopsis

This paper aims to present the diffused botanical garden as a new typology of urban space and a methodology to colonize lost spaces in the area of Ostiense - Valco San Paolo in Rome, a highly disperse area due to the deindustrialization. The intermediate scale of landscape keeps together all the puzzle pieces, interconnecting physical scales, time and users in an accurate acupuncture exercise. The diffused character of the different systems in the area needs to be hold by an active and vibrant project of ground.
The parking lots are active areas, versatile and adaptable that highly contribute to the urban ecology, activating an alternative network, base of a new system of open spaces linked to the main green infrastructures operating in this area.

Key words: Diffused botanical garden, intermediate scale of landscape, parking lots, ground level project, urban project.

The **Ostiense-Valco San Paolo** area of Rome is located to the southwest of the city, confined with the city walls in its access by Porta San Paolo and developed between two railway lines. Strategically located in the expansion of the city towards the port of Ostia, it has always been the subject of numerous plans and projects where its main role was to connect the city with the sea. It is the first industrial district of the city of Rome due not only to the two railway lines but also to the navigability of the Tevere to the port of Trastevere a little further north. But despite being an industrial area, Rome never had large concentrations of industry so for this reason it is located in close proximity to the residential urban fabric.

It also contains the Tevere river as axis, which right in this section abandons the protection that accompanied it from the sea under the tutelage of *the Riserva del Litorale* Romano and still does not take the title of the Tevere in the historic center. The attempt of the city to grow towards the sea, mainly through the via Cristoforo Colombo, and the lack of tutelage make this whole sector to be developed on the great communication routes, as a result the city has turned its back on the river, leaving all the vicinity space as a forgotten area that functions as a background to the great axes that cross it

In addition, the disintegrated fabric that tries to coexist between the large structures and the residential areas has been colonized by a series of parking lots (official and spontaneous), often in strategic locations (on the banks of the Tevere, along the via Ostiense) that implement asphalted surfaces that are difficult to blend with their surroundings (Fig.1).

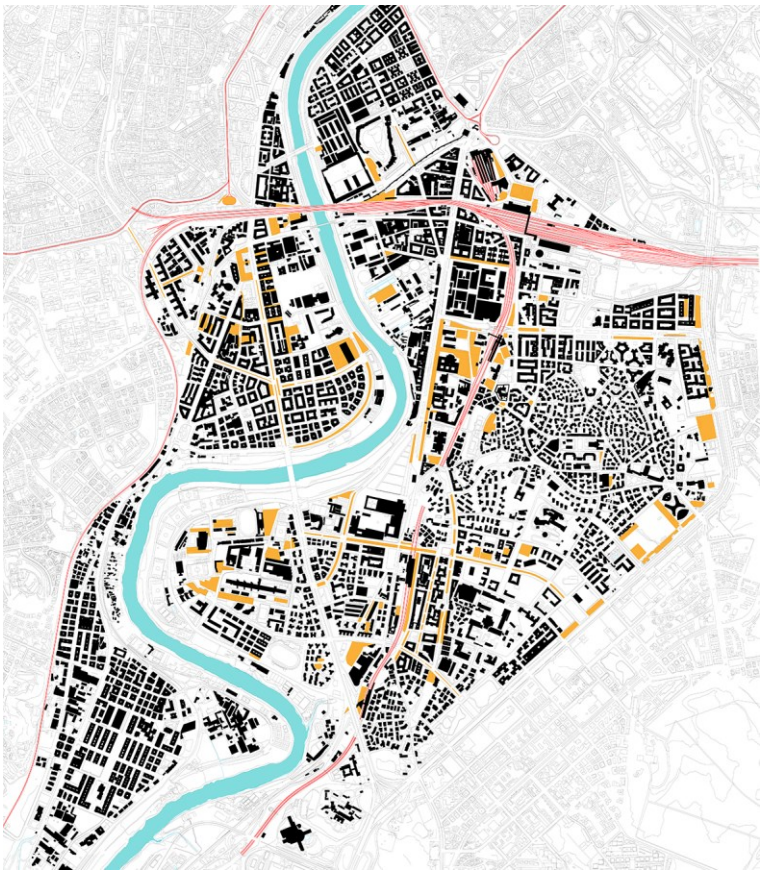

Figure 1.

In the mid '90 an **urban project**[1] was developed aiming to restructure the whole sector. The Roma Tre university was a main actor as establishing most of its faculties and schools (a cultural infrastructure) in Valco San Paolo and Via Ostiense, the mobility infrastructures needed an implementation to reconnect the area with its surroundings, the presence of large industrial areas (Italgas with its gasometers, the Monte Martini thermoelectric power station, the general markets that supplied the city, ...) were creating large closed blocks that should be opened to public space, and this rethought as a totally new system articulating all the interventions; last but not least, the Tevere was imagined as a new green corridor for citizens. Very little of that was done but the ideas are still latent.

In 2014, the Architecture Department of Roma Tre conducted a research of introducing a new typology of public space: the **diffused botanical garden** would link all the open spaces of the faculties to the already existing system of urban space and "lost" spaces[2]; it was a perfect case to understand how a developing sector faces the interstices created in its planning process together with its existing anomalous spaces, bending traces, fluxes and users, attempting to give continuity to the "project of ground"[3] through an **intermediate scale** that connects the different public areas that have been generated. The classical botanical garden is here revisited and adapted to the diffused character of the area. It is not an exclusive well-defined enclosure where just study the vegetation anymore, but a new urban space where to enjoy the vegetation with a didactical character; it is the vegetation meeting the city, the vegetation as main actor of the public space, a methodology knitting together all the puzzle pieces, in a scale that does not care about extensions but links to the territory and its surroundings, whether they are temporal, spatial, environmental or social. Vegetation and landscape are not a superficial practice to mitigate or embellish these anti spaces, but a tool which allows us to understand how to work with and from the contradictions of contemporary territories, assimilating all technical and engineering components and cityscape's figures[4].

Diffused industrial area, diffused university, diffused cultural services are linked through vegetation and urban ecology to the territorial systems crossing the area in a delicate exercise of urban acupuncture

Starting in the university's **parking lots**[5], the new system will rapidly extend to other parking lots and will carefully colonize the nearby lost and forgotten spaces (Fig.2). The parking lots, open space typology intimately related to modern disperse cities, are highly versatile spaces due to its spatial characteristics and its (so far) simple morphology as a paved extension aiming to have the maximum space to park cars. Because these are governed by clearly defined schedules

[1] For further research refer to Canciani, Marco. *Piano di asetto per l'attuazione del progetto urbano Ostiense-Marconi*, Edizioni Kappa, 2004 or Marroni, Umberto. *Roma. La rigenerazione dei quartieri industriali. Il progetto urbano Ostiense-Marconi*, Ponte Sisto, 2017

[2] It mainly refers to Roger Trancik's concept of lost space in Trancik, Roger. *Finding Lost Space*. Van Nostrand, 1986

[3] It refers to Bernardo Secchi's concept of ground project in Secchi, Bernardo. *Un progetto per l'urbanistica*. Piccola biblioteca Einaudi, 1989

[4] In Ghio, Metta, Montuori. *La scala intermedia per il progetto del paesaggio italiano*, Convegno Nazionale Paesaggio 150, Reggio Calabria 2011

[5] For further research refer to Ben-Joseph, Eran. Rethinking a lot. The design and culture of parking. The Mitt press, 2012 or Childs, Mark. Parking Spaces. A design, implementation and use manual for architects, planners and engineers. McGraw-Hill, 1999

(working hours for residential and office use, weekdays for business, etc.) an alternative look at their use, is almost an immediate parameter to be dealt with.

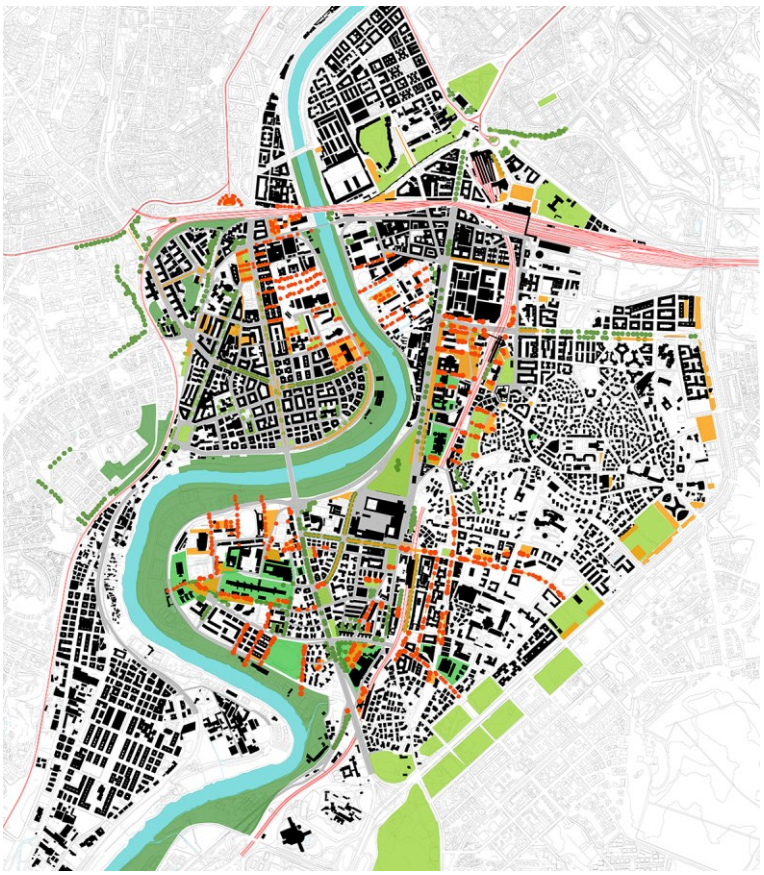

Figure 2.

But not only, they are also flexible and multifunctional spaces, even for spontaneous appropriations, spaces that can act as relievers of the increasing presence of cars in our cities and positively contribute to the urban identity. They have a huge importance within an ecological and sustainable framework where the proper use of its materials can help reduce impervious surfaces, fight heat islands, and contribute to the control of water runoff and effective groundwater recharge. These forgotten spaces deserve not only our economic investment but our attention as designers of our urban environment.

We need to abandon the static and already defined traditional open space and look for vibrant programs that can satisfy a large number of users. The spatial characteristic of a parking lot offers a unique opportunity to use them beyond mere car storage. Markets, game and sport areas, cultural and social event gatherings, contemporary gardens... all these activities can occasionally come together in the parking lot as part of the public realm. The parking areas both with its desired or undesired uses, forms the unplanned space within the urban fabric that fills the physical and mental gaps in our projected environment. Parking lots don't need to be overdesigned but we definitively need to look at them again. Their standardized character needs to be overcome by their innate ability to generate identity and its potential power to transform a space into a place.

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Biography

Marta Rabazo. PhD candidate at the ETSAM, DPA, UPM, in Madrid (Spain) and also coordinates the Master on Landscape architecture-OPEN at the Roma Tre University (Italy)
Trained as an architect in Madrid, Spain, with a Master of Architecture from the Politecnical University of Madrid and a Postgraduate certificate in Design of Parks and Public Spaces from Roma Tre University of Rome, she has been working in architecture and landscape for the last twelve years for various renowned firms.
In 2008, she joined Balmori Associates where she has been involved in various projects including Campa de los Ingleses and Plaza Eusakdi in Bilbao; the Botanical Research Institute of Texas; Yale Engineering Research Building and Farmington Canal Greenway in New Haven; VIOL Headquarters in São Paulo and several competitions.
Her interest in the intersection of landscape with infrastructure or architecture, sustainability and representation of landscape, guided her lectures and researches.

Anatomizing NetLogo

Some advices on how to consider a programmable environment for designing inhabited landscapes

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Synopsis

NetLogo is a freely programmable environment that offers an interface whose graphic synthesis is sufficient to depict emergent and complex phenomena as long as they are characterized by the appropriate variables; it looks for ways to incorporate geometric and geographical bases of real cartographies; it has the capacity to speculate with the future of reciprocal, cooperative societies; is able to diagram the virtual model on the graph of real data; finally, it helps researchers and teachers to set methodologies to project from the consideration of minimum knowledge units and neighbourhood conditions. This paper explains some resource implications as well as examples chosen in recent years by students of the UA.

Key words: programmable learning, hybrid societies, landscape design, process depiction, agent-based modelling.

1. Introduction

Anatomize, in its greek root, means cut and turn to make visible the portions, like a scanner

NetLogo emulates how natural communities unfold at multiple scales from systemic to microscopic, through coexistence rules, cohabitation and cooperativism. Members that make up the communities are called particles or agents, and have been used in recent decades to characterize algorithms in Artificial Intelligence (Wilensky, 1999 and 2015).

2. Statements

Statement 1. As if it were a dialect, these parametric models accurately convey arguments for the description of contemporary complex societies. If a biologist parametrizes shared concerns, reciprocal observance, minimal leader influence, diversity in opinions and forms of quorum and solidarity in a bee colony searching for hives (Seeley, 2010, 208-253), it is likely that part of his methodology can be extrapolated to the design of ways of living in hybrid human and non-human societies based, e.g., on care ethics (Puig, 2017) (Netlogo\ BeeSmart Hive Finding).

Statement 2. Each model includes a graph called "world" divided into a matrix made of "plots" in which the families of agents (originally called "turtles") behave following rules or neighbourhood considerations. This "world" is shown thanks to a reduced chromatic range and a degree of abstraction, sufficient for the understanding of the phenomenon (see figure 1). Each model is accompanied by a description about agent definition, interaction rules, and editing mode to continue with the versioning. Some small rectangular labels are added to the “world” depiction and correspond to display or dimensioning options.

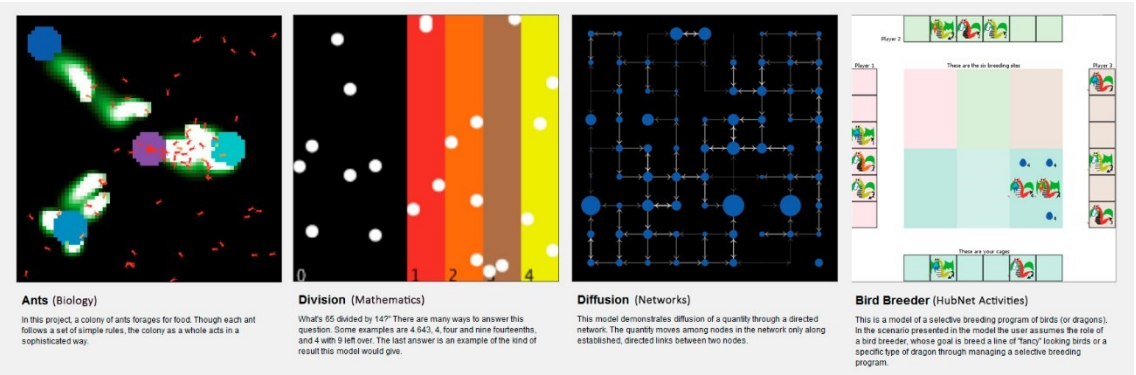


Figure 1. Four samples of graphic display of agents over the world.

Statement 3. Success of the resource involves facilitating the reversibility of graphic standards between vectorial (eg DXF), raster, GIS files and those produced in the "world" of NetLogo. Solving certain difficulties in modelling and integration methods (Crooks and Castle, 2012), advances are being produced, like those referring to settlements in the East Anglia region, UK (Fontaine and Rounsevell, 2009); settlements in classical Greece and Rome (Graham and Steiner, 2006); or gentrification processes in Salt Lake City, Utah (Torrens and Nara, 2007).

Statement 4. A model emulates a natural or social phenomenon. If it has already happened over time, as in the dynamics of depopulation that occurred more than six centuries ago in Longhouse Valley, Arizona (Netlogo \ Artificial Anasazi, Janssen, 2009 and Swedlund et al., 2015), we can consider it successful when real and virtual graphics are close enough. In the Artificial Anasazi model, data such as remaining corn harvests, household location, hydrological and paleontological values or seasonal cycles have been crossed over (see figure 2), with agents characterized by families with life expectancy, fertility, nomadism, food and ability to generate pantries. Precisely these ones became graphic variables (sliders) in the visual interface.

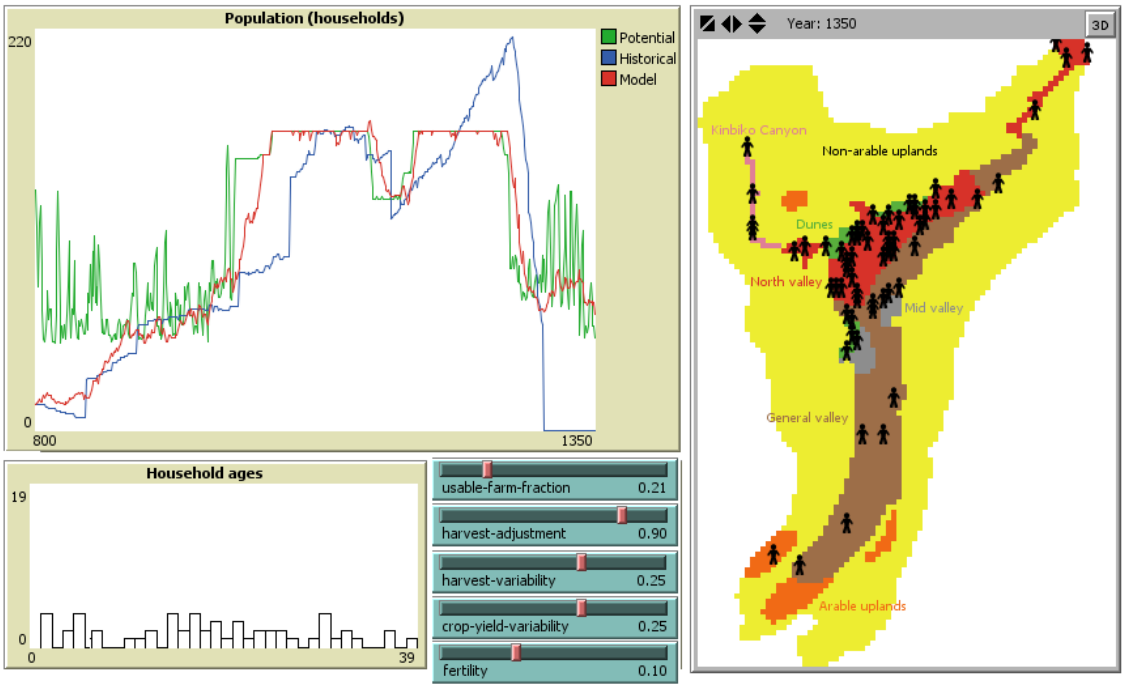
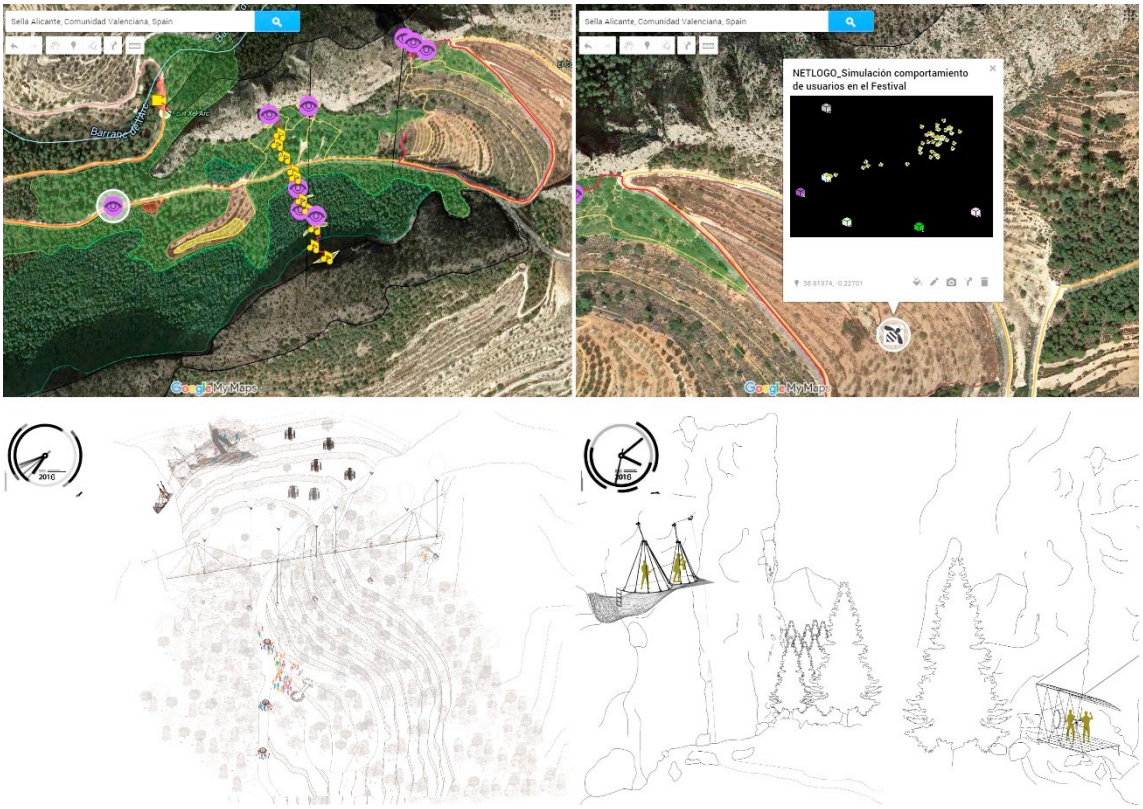


Figure 2. “Artificial Anasazi” model.

Statement 5. Applying analogies and little creativity, indicators that regulate the evolution of a model can be extrapolated to new ones of different natures. For example, in 2016 some professors fostered Architectural students to design sustainable, light, scenic devices in Sella’s Valley (Marina Baixa, Alicante), taking into account acoustic conditions of rock walls, ways water is distributed, forests, trails and roads, farms and glades, and new mountain uses such as hiking and climbing. Some of them decided to test NetLogo through one model that simulated how scout bees looked for locations to locate hives (Netlogo \ BeeSmart Hive Finding). In the model, a number of scout bees were flying following a random drift. When one of them found an ideal hive location, it returned to the community. Depending on the dance mode the rest of the members understood the opportunity of moving together to the candidate hive. This caused other bees to start exploring and if "quorum" arrived (a certain quantity of bees observing the dance of a certain quantity of scouts) then the relocation started (Seeley, 2010). If the goal of architecture students had to do with transferring the neighbourhood lodgins (“barracas”) to suitable places in the landscape in order to enjoy musical rehearsals, NetLogo’s strategy could be

applied: number of beehives became candidate acoustic locations, number of scout bees would be hikers, maximum search time would had to do with the people's tiredness, types of "beedances" could be translated into musical abilities using voices and instruments, etc. Netlgo gave students some keys: acoustic relocations ended up depending on human aspects (physic fatigue, orientation), natural variables (wind direction, sound absorption, reverberation) and technical questions (musical and climbing tools). And the main lesson was that communitarian agreements let multiple design solutions be possible.



Designs considering the "BeeSmart Hive Finding". (Professors: Abellán and Carrasco)

3. Conclusion

The resource is useful for researchers when the student succeeds in isolating a goal from his design or landscape project and discretizes it in environmental or social parameters. The tool helps us to understand our discipline as an ecology, a place for controversies in which architecture deals with humans and non-humans, as agents in a colony or a swarm in the which the relevant are the interactions and the way of self-organizing.

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Biography

Francesc Morales Menárguez. PhD Student. Architect by the University of Alicante (2015) and Agricultural Technical Engineer by the Miguel Hernández Universitat d'Elx (1998). Honorary professor in the year 2016-2017. Member of network "Viceversos" in the application of new technologies to achieve interactive architectures. Research agent-based design and programming in order to obtain adaptive solutions. Teacher of workshop "Worldmaking and Technoledge" among universities of Alicante, TuDelft (Netherlands) and York (Canada) (2017).

Jose Carrasco Hortal. PhD Architect (Barcelona, 2002). Teacher and researcher in Graphic Methods, Theory and Design Department (Alicante 1996). Cofounder of “Viceversos Research Network” and “Common Extra House Lab” focused on shared educational practices and co-design architecture. Member of "Architectural Projects: critical pedagogies, ecological politics and material practices". Recent scientific contributions on shared design; participatory tools; public cartographies; transmodal methodologies, embodied architecture, agent-based models; and time-space depictions of processes.

Antonio Abellán Alarcón. Architect (Pamplona, 1999). Teacher and researcher in Graphic Methods, Theory and Design Department (Alicante, 2003). Cofounder of “Viceversos Research Network” and “Common Extra House Lab” focused on shared educational practices and co-design architecture. Winner of several Regional Architecture Awards (Murcia). Prize in Heritage Design for Cathedral of Murcia refurbishment. Dwelling publications in Pasajes de Arquitectura y Crítica, 2G. Founder of Huertabizarra. Recent scientific contributions on shared design; participatory tools; public cartographies.

Bagnoli: A City Project

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Synopsis

For its values, the Bagnoli-Coroglio area (in the western part of Naples) represents a greatly significant place for the city and its community.
The story of its transformation, from the cessation of the industrial activity until today, is very complex; it has lasted for about 20 years and has had a great influence on the social structure of a district that places great dreams and hopes in its regeneration.
The desire for a free beach and a public park for the city is indeed still waiting to be realized. But today we are at a turning point.
This contribution, that briefly reviews the main stages of this story, aims to highlight the entire process of the construction of the environmental redevelopment and rehabilitation project of the area, presenting it as an interweaving example of architecture, urban visions, urban planning, environmental restrictions, politics, legal events, but also an example of strong popular participation for the construction of a "City Project".

Key words: Urban visions, politics, landscapes, participation, conflicts.

1. Political-urban chronicle of the area

Bagnoli is a district in the western suburbs of the city. It has about 25 thousand inhabitants and covers an area of about 8 square kilometers. It overlooks the sea, on the Pozzuoli bay. In the Twentieth century, it became one of the industrial districts of Naples; in 1911 it became the headquarters of Italsider (later ILVA), a steel factory that had up to seven thousand workers.

The factory closed in 1993, the year that marked the start of the dismantling of the plants, followed by reclamation projects to clean up the area. In 1994, the first reclamation works were financed, but they were never completed due to problems mainly related to the soil pollution and instability. The Bagnoli Company, created in 1996 to manage the redevelopment works, dismantled most of the industrial buildings, but after six years of work it had completed only 30% of the reclamation. One of the main problems of this reclamation is a large surface in cement built on the sea in the 1960s during an expansion of ILVA, the so-called “colmata a mare”. The removal of this large surface of cement, that still exists today, is considered a priority for the reclamation of Bagnoli.

In 2001, the Municipality of Naples purchased the lands on which there were ILVA and Eternit plants, and replaced the Bagnoli S.P.A. with the Urban Transformation Society (STU) that had to manage the redevelopment project of Bagnoli and the adjacent area of Coroglio. The STU was then replaced the following year by the Bagnolifutura company, which was supposed to regenerate Bagnoli after a decade of unfulfilled promises and designs never completed. The project to be implemented was adopted in 2005 by the Municipality of Naples as an executive urban plan and, among other things, it included the realization of a park, a beach, a "sports park", research infrastructures and facilities suitable for touristic reception.

A few years later, the whole project began to go into crisis; there have been many administrative problems, delays, failed auctions, blocks of funds and variations of projects. In 2011 there was a first requisition of the lands linked to the lack of the reclamation, and in 2013 the Naples Public Prosecutor seized the land owned by the company with the accusation of environmental disaster. In the same year, the mayor of Naples Luigi De Magistris, through a trade union decree, ordered to Fintecna company (which took over the ownership of the areas of the former Italsider plants, later ILVA) to proceed, to secure the sandy shore of Coroglio-Bagnoli, with the presentation of the project for the complete removal of the cement surface, and also ordered to the Cementir Italia company to provide for the realization of the works necessary for the safety of the contaminated site, according to the "the one who polluted is the one who must pay" principle. Subsequently, in 2014 the Bagnoli Futura company was put into liquidation.

Between September and December 2014, three legislative measures have substantially affected the Site of National Interest (SIN) Bagnoli-Coroglio, providing for its external administration and the subjugation to the Program for Environmental Reclamation and Urban Regeneration: the so-called "Sblocca-Italia" (Unblock Italy) legislative decree (DL 12 September 2014 n.133 -art.33), the relative conversion into law (L 164 of 11/11/2014), and the 2015 Stability Law (Law 190 of 23/12/2014). These legal acts represent a form of expropriation, not participated

but bottom-up, which delegitimize the role of the City, as an institution closer to the citizens and representative of the interests of the community and the territory.

These regulations wanted by the Italian Government were perceived as being able to cancel the function of the local Authority, and also to delegitimize and to take away responsibility from local communities, ending up generating strong doubts about the control of the public interest, as they put a large part of the Bagnoli lands under the control of a Commissioner and an Actuator, with the power to associate private individuals in the definition and approval of an economic-financial program and of an urban project, such as to constitute, without passing through the City Council, an automatic variant to the PRG (Piano Regolatore Generale, Local Strategic Plan).

Figure 1. Bagnoli's urban void.

2. A City Project

Simultaneously with the start of a long political battle for the reaffirmation of the right of Local Authorities to deal with the approval and implementation of the urban redevelopment program, the Municipality began to draw up a new urban plan of Bagnoli that would enhance the environmental and landscape features of the site, according to a sustainable economic-financial program where the contribution of private capital was possible.

"Transformative scenarios" were then identified, including the enhancement of the marine and coastal landscape of Bagnoli-Coroglio, the restoration of the natural morphology of the coast, the redesign of the park's borders, the landscape of the new settlements and the enhancement of the park. Later in 2015, the City Council of Naples approved the main points of the project, becoming the guarantor of the interests of the community.

Figure 2. Project history.

Points that can be summarized as follows:

- the realization of a public beach with a promenade along the sea;

- the prevision of an equipped and usable boardwalk;

- the definition of a light harbor activity that does not interfere with bathing;

- the reduction of the currently planned volumes, of considerable impact on the historical fabric of the district, and a new distribution of these volumes in a new organic landscape;

- the relaunch of the large equipped public park, made more usable by a diversification of functions ranging from leisure time, to sport, to music, to well-being, to other various attractors especially for young people;

- the enhancement of industrial archeology through a greater flexibility of the allocable functions, and also of the volumes available for various purposes including the private ones for tourism accommodation;

- the proposal for new relations between the park and industrial archeology, between the park and the production of goods and services;

- the stabilization of the planned residential functions, with shares of social housing.

After many disputes that saw the activation of the community through various forms of mobilization, in 2017 the Municipality of Naples, thanks to the great participatory power of the citizens, managed to get an inter-institutional agreement, signed by Government, Region and Municipality, which has put back at the center the never completed project of reclamation and urban regeneration of the area, but with assumptions totally different from the initial ones.

Figure 3. Public park project.

Thus, starting from the project presented by the city, a concrete agreement has been reached between institutions and citizens about the vision and objectives of the transformation of Bagnoli. Currently, technical meetings are being held in which representatives of the Municipality and the Region, the actuators subject indicated by the Government and representatives of the communities participate.

The goal is the construction of a shared strategy that leads to the definition of a concrete "City project", of which the city recognizes itself as an author. All these things want to show that the place (and its transformation) coincides with the process, understood as the complexity of different events, circumstances and actors. The architectural visions developed by the architects represent only a part of this process. Architects must get into these stories, know them and become active subjects. Our territories are changing very quickly, due to different forces (political, legal, ecological), architecture is slower. Bagnoli is an exemplary case. But nevertheless, the values of free beach and of public park, shared with the citizens, have always been preserved in all the projects.

The sustainability of an urban project is then in the reading, the understanding and the respect of this complexity, in order to direct it towards multiple forms of landscape.

Biography

Daniela Buonanno. Naples 1985. Architect and PhD in Urban Design and Planning at the University of Naples Federico II, Department of Architecture. Her research focuses on the integration between urban space and the rural space in the contemporary city, her thesis is called “Ruralurbanism. Productive landscapes”. As an expert of the subject, she teaches and researches in the laboratories of Architectonical and Urban Planning and Architectural Composition of the Department of Architecture of Naples. The results of her researches are presented in articles, papers and books (Eurau’10- Eurau’12- Eurau’14- Eurau’16). She has attended numerous national and international conferences and workshops about the transformation of the city. Since 2014, she works at the Urban Planning Department of the City Council of Naples.

Carmine Piscopo. Naples 1968. Architect, PhD in Urban Design and Planning, and, from 2010, he is Full Professor of Architectural and Urban Composition at the Department of Architecture of Naples Federico II, where he is a member of the Board of the Doctorate in Architecture. Author of essays and articles on architecture and the city, some of its publications are "Architecture and Commons" (with Daniela Buonanno, Florence 2017), “Public Domain" (Anversa 2017), "Criticità e Architettura" (Genova 2015), “The City, Desiring Machine” (Rome 2012), “Le Corbusier and the Crossed Paths. The Watercolors between Art and Architecture and the Voyage d'Orient” (Rome 2012).
From May 2013, he is Assessor in the city of Naples for the Urban Policies and Planning and Common Goods. He is also the coordinator of the working group for the establishment of the Metropolitan City of Naples and the Great Plan for the Historical Centre / Unesco site of Naples.

The complex legacy of italian former asylums and judicial psychiatric hospitals

Case-study of the judicial psychiatric hospital of Saint Ephraim in Materdei, Naples

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Synopsis

The present document deals with issues concerning urban voids but more precisely on those caused by the disposal of the Italian asylum and judicial psychiatric hospital heritage. In it, we try to understand the possibilities that architecture has, with the project, to systematize all the disciplines involved in the regeneration process of the latter, referring to the case study of the former judicial psychiatric hospital of Saint Ephraim in Naples.

Key words: Heritage, Asylum, Regeneration, Hope.

1. The Italian Asylum and Judicial Psychiatric Hospital Heritage

To talk about architectural heritage, its protection and enhancement, as well as what may be future scenarios for its probable use once its original function has come to an end, means to investigate spaces or single episodes of the contemporary cities that are dotting the urban fabric, in relation to the contemporary changes of the city. With this paper, we want to focus specifically on those voids generated by the divestiture of Asylums heritage and above all on that of the *judicial psychiatric hospital*[1] that characterize many cities of the peninsula. These voids are similar to black holes in the urban structure because, if the former are "the terminal phase of the evolution of a star of great mass surrounded by an intense gravitational field that does not let neither matter nor radiation escape", the latter are what remains of architectural occurrences of great prestige surrounded by tangible or abstract boundaries that make them invisible to the community. Therefore, focusing on the Italian judicial psychiatric hospital assets and on the process of disposal that has invested them since L.81 / 2014 and paying attention to the effective closure of all the structures in 2017, we realize that the legacy of this process includes the complex question of the conservation and protection of a problematic heritage.

A reality still alive to this day, proof of a piece of history of our country, endowed with great evocative force and repository of collective and individual memories, fears, prejudices, caused by the stigmatization of mental illness. It is evident, however, that the recovery of such a complex heritage gives the opportunity to rethink the city's space and triggers a process of acceptance of the painful past. Working with these voids means, first of all, to investigate the heritage in its materiality and morphology; to make a critical interpretation in view of the need for protection and for new uses. Moreover, in triggering a process of regeneration we are compelled to make the different kinds of knowledge interact at various levels of the project, managing a complex task that has strong, social and economic consequences. In the case of asylums and Judicial psychiatric hospitals, we are also confronted with buildings characterized by complicated morphologies and certain spatial characteristics that cannot be underestimated. A building designed to restrain people is a building that has clear and distinct borders, it does not look for visual contact with the outside. It is an introverted building built from a sum of spaces that often avoid themselves rather than communicate. The articulation of the paths is complicated and sectoral: it is often interrupted and broken by the thousand of reconstructions that affect and reflect the changes in the conceptions of psychiatry. However, if on the one hand the project clashes with all these problems, on the other hand, these same buildings are the promoters of the rebalancing of unbalanced areas and strategic resources thanks to their position, size and value.

[1] The Judicial Psichiatric Hospital – in italian Ospedale Psichiatrico Giudiziario – is a category of prison house that in Italy in the mid seventies (DPR 29/04/1976 n. 431) replaced the old asylum for criminally insane. This category, dependent on italian penitentiary administration, was abolished in 2003 but finally close in 2015 after L. 81/2004

1.1 The case of the judicial psychiatric hospital of Saint Ephraim in Materdei-Naples

Among the many buildings on Italian territory affected by decommission, following the failure of the model of the Judicial Psychiatric Hospitals, I choose to treat the case of the Former Psychiatric Hospital of Saint Ephraim (Fig 1) which was also the study subject of my degree thesis.

Figure 1.

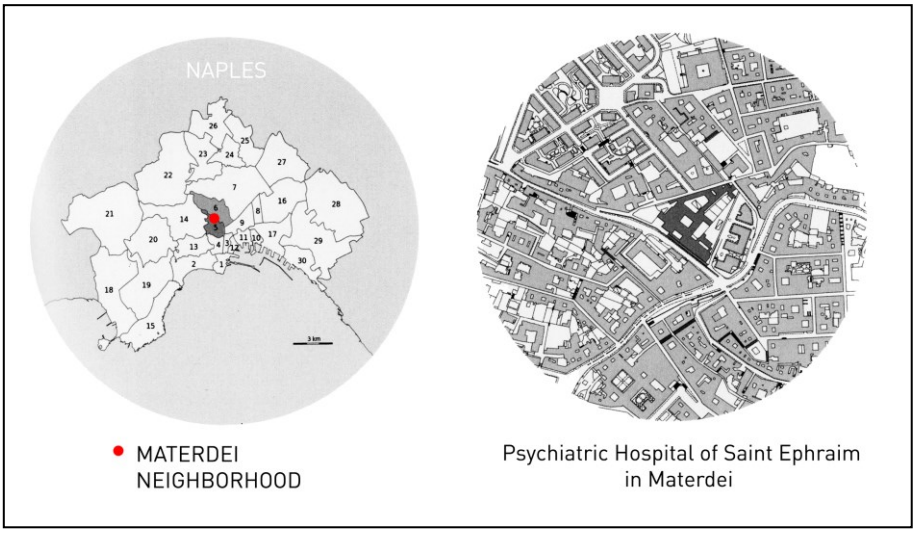

Figure 2.

The building is located in the Materdei district of Naples (Fig 2), an important link between the ancient city and the twentieth-century high neighborhoods, and tells a story that covers a time span of more than 400 years, from the year of its foundation occurred around 1572 up to today. Over time, the building has undergone various changes regarding its intended use. It was a convent until the suppression of the monastic orders following the anticlerical politics of the Kingdom of Italy; barracks from 1865 to 1975; finally, psychiatric Hospital from 1975 to 2008, the year of its closure. Rooted in the

neighborhood, but always used for different purposes from its nature, since its destination as O.P.G it has been perceived as a hostile place to be avoided. Therefore, the large building, out of scale compared to the residential fabric of the district, has undergone a process of abandonment and transformation, which turned it into a huge and degraded void, even if it is a place rich in historical stratifications and memories. Nevertheless, the story of the Saint Ephraim Complex is a particular story: suddenly, after years of oblivion, it was occupied in 2015 by the collective CAU - Napoli that gave life to the “Ex O.PG. Je So Pazzo”, an association with the aim of re-appropriation of the building and return it to the neighborhood by promoting activities for the community. The occupation, that obtained political legitimacy from the municipal administration, has triggered a process of subtraction and arrangement of the building: an episode of popular action to transform the complex into a common good, no longer individual property (the building was State-Owned), but collective. The thesis work, which had as its objective the elaboration of a project of global re-functionalization of the building, has its genesis in an in-depth morphological analysis of the complex and an identification of the denied but possible relationships with the neighborhood. Since the preliminary studies conducted with two other colleagues, it has been evident the need to treat the huge complex as a unitary organism, but at the same time to imagine an installation in it of different functions, obviously compatible with the plant, to reconnect it with the urban fabric. The project proposal moves from the consideration of three fundamental aspects: conservation of the memory, reconnection to the existing fabric, reinforcement of the functions destined to the community already started by the occupants. Hence, the proposal to work synergis-tically throughout the building, but trying to overcome all the limits of a reclusive structure. Then the creation of a museum of memory, narrative of the history of the building and its past as a psychiatric hospital, located in the cells and rooms of the church of the former convent. A dorm, in the part once reserved for military housing, to cope with the lack of university accommodation in the historic center of the city, where many universities are located. Finally, a social-housing complex for the residential nature of the neighborhood and the housing emergency (Fig 3). The most relevant issues undoubtedly concerned the accessibility, the rethinking of margins, the rethinking of internal and external connections. The thesis experience has also allowed us to understand the potential of this structure and the necessary involvement of different actors: from the administration, to the citizens, to all the professional figures involved in the design, up to other possible stakeholder. The re-functionalization of a building of this size certainly triggers a process of redefinition of the structures and polarities of the neighborhood and Architecture, with the project, leads the processes and systematize all the disciplines involved in them, towards the re-appropriation of space and the achievement of new social and economic balances.

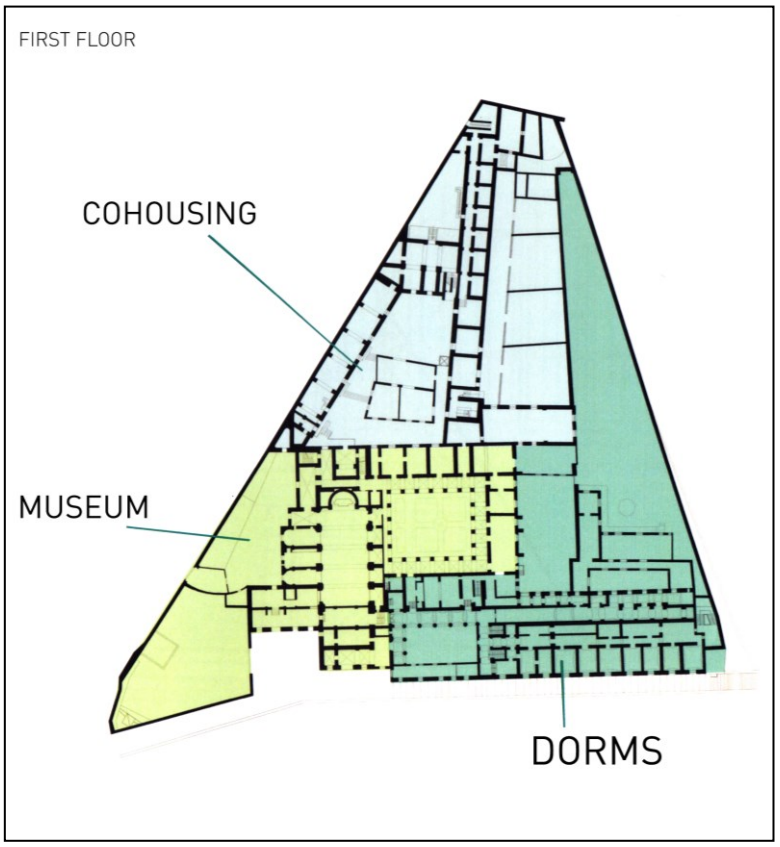

Figure 3.

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Biography

Antonella Barbato. PhD student in Architecture at the University of Naples "Federico II", class 1991, she collaborates in the architectural composition courses of the architecture department, held by Professor Marella Santangelo. After graduating, with a thesis in architectural design on the judicial psychiatric hospital of Saint ‘Ephraim in Naples in 2017, her research is currently focused on penitentiary architecture.

Sprawl Milano

A new laboratory for resilient urbanism

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Synopsis

Via a comparative analysis between areas of sprawl in north and south Milan, tracking undefined voids of the territory as active indicators revealing the level of urban fragmentation and vulnerability, this papers main debate hinges on the tactical role of such land typologies, resulting alternative proposals toward peri-urban resilience strategies. The goal is to redefine and conceptualize those hidden, ignored and neglected landscape's, niches that contain a fresh strategic layer for the contemporary sprawl to become more resilient in anticipation of future catastrophic conditions.

Key words: Sprawl, Milan, peri-urban, landscape, resilient urbanism.

This paper's main intention is to introduce a fresh gaze into the territory of Milan's sprawl as an example of contemporary European sprawl. The aim is to present a critical lens in order to comprehend better contemporary sprawl and its level of fragmentation and vulnerability. Looking into what we normally miss to observe in sprawl, or what we ignore, or whatever is hidden from our urban eyes, comprises a new tactical layer for analyzing sprawl.

We normally see sprawl superficially because it is too big for our urban eyes. It carries no collective memory, nor an immediate way to imagine it. It is easy to say what sprawl is not rather than what it is. We don't have critical tools to observe, understand, and explain it. Quantitative or object oriented approaches are not sufficient to describe the reality of sprawl and always a more reliable definition with more effective indicators to measure its level of fragmentation in comparison to the city, is desirable, especially the ones which reveal what we normally are not able to see or conceive.

The context which today both elites and popular cultures would recognize as European sprawl, is a relatively developed complex landscape full of urban and rural tissues, entities and materials, with diverse and most often contradictory functional and spatial programs. Gray platforms, industrial strips, heavy infrastructures, international transport hubs, new medium or high density residential extensions, overextended suburban housing, beside historical cores, villages, urban gardens and agricultural and water networks within geographical features of territory, each with different regulations and conflicting codes from one municipality to the next, all together, they portray a labyrinth which more than anything, one can argue is neither a simple "*post-city being prepared on the site of the ex-city*"[1] nor a "*holey plane*"[2], rather it is a *middle landscape*[3] full of complexity and contradiction, solely out of our urban scale of comprehension.

On the northern edges of metropolitan city of Milan, the strips of sprawl from Malpensa to Bergamo Airports[4], have all the similar elements to the classical definition of American sprawl. They thrive on the culture of consumption, heavy infrastructures and liberal industrial estates, mostly with private and even third sector developers and investors. Yet, the overall condition of their permanence is very contested within a very unique peri-urban landscape. North Milan sprawl itself is very much effected by two dominant systems of the territory; one, deeply rooted in geographical features, generally valleys and rivers oriented north-south, and the other based on the superimposition of infrastructural systems, connecting east to west, intersecting with the more historical ones along the valleys[5]. While effective systems of railways and highways made the flow of both commuters and goods fast and easy, the net of designed destination-system of those infrastructures, presents the image of sprawl which is very difficult to comprehend, especially to understand what happens in-between the nodes as far as using those modes of transportations[6].

[1] Ref. to Generic City (Koolhaas, 1995)
[2] The term which used by Lars Lerup to conceptualize the image of Houston sprawl
[3] The term which Leo Marx first introduced
[4] As part of a stretch from Turin to Venice megalopolis which is one of most mature sprawls in all Europe.
[5] This is the real image of what Boeri, Lanzani and Marini would have called upon as "Il territorio che cambia"
[6] Ref. to jump-cut urbanism (Ingersoll, 2006)

One can argue that the sprawl in this sense is very much a generic phenomenon, all base on the fast transportation and mobility, reaching the next destination as fast and direct as possible, ignoring what is in-between, or away from the highways or railway lines. However, while sprawl is mostly the result of the flow of populations, goods and materials, there is always a permanence to it. Our urban eyes always look for urban artifacts, urbanity in general and buildups or the otherwise classical hinterland landscape. Our disciplinary minds and tools are not able to see what is in between the two images and the fact that in sprawl none of the two has a clear definition. More importantly our urban eyes fail to observe the fact that the real permanence is what resists as leftovers of the two categories, secured in our perception and collective memories of core cities and hinterlands, projected into our imaginations of sprawl. Interesting enough, exactly those vague, unclear and residual spaces are the ones which decide the fate of the territory confronting any catastrophic future. If there is any room for anticipation and to design and modify the existing condition, one needs to find it in those spaces.

To have a better understanding of this condition, one needs to distance itself from being generic, too much mobile and object/destination oriented toward better investigation of more specific nature of sprawl as such. For instance, a sampling analysis between the areas of sprawl in northern and southern Milan clearly shows the very different nature of the two sides of the metropolis[7]. While the image of the south is much closer to the classical example of metropolitan city and its hinterlands where the city edge almost consolidated by the *Parco Agricolo Sud Milano*[8], the north is full of diverse undefined voids with a variety of scales in between infrastructures and built-up tissues, where the city seems edgeless. And one can clearly understand that the common ground between the two is not the very visible production of superficial or generic buildups and physical materials of sprawl but it is related to rather deeper structure of the territory where lays a true resilient capacity.

Tracking down in-betweens, residual spaces, vacant lands, neglected spaces and in general undefined voids of the territory can serve as an active indicator for that analysis. The nature of sprawl invites new unconventional methods of description, especially methods which reject the three-dimensional analyses of objects in space, and ignores the typology or morphology of planned built-up areas or voids. These methods do not suffer from a fixation with scale because fundamentally they are based on a deeper exploration of the peri-urban realm of sprawl rather than the distribution of mass objects.

Last but not least, I would like to suggest the deeper exploration of these land typologies as a fresh layer of what the landscape of 21st-century sprawl could be rather what it is; what I would like to call "the ecological interstitial" or what Clément cited as “Third Landscape”, should be studied by multidisciplinary approaches, looking into its critical role in the reconstruction of peri-urban resilience strategies. It is therefore vital to conceptualize those hidden, ignored and neglected landscape niches as a multi-functional layer of contemporary sprawl--for instance very similar to De Sola Morales’ “Terrain Vague” concept of landscape-- yet investigating it for

[7] Ref. to Boeri, Lanzani and Marini analysis of south and northern territory of Milan, 1993
[8] South Milan regional agricultural park, which is under protection and therefore is very much consolidated

its potential in order to address issues of future resilience of the territory.

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Biography

Arian Heidai Afsahari. (Kerman, 1984) Iranian Milan-based Architect, he has received his Ph.D. cum laude in architecture, urban and interior design from the Department of Architecture and Urban Studies (DAStU), Politecnico di Milano, Italy. Since 2013, He has been collaborating with DAStU and the School of Architecture, Urban Planning and Construction Engineering (AUIC) at Politecnico di Milano, participating in national and international research and didactic activities, mainly in the architecture and urban design scientific sector. He is a former teaching fellow and regular visiting researcher at Centre for Environmental Planning and Technology (CEPT University), in Ahmedabad, India. His research is mainly focused on the theory and history of the peri-urban territory as well as investigating in multidisciplinary strategies, methods, and tools to analyze and project in the emergent 21st-century sprawl in the Global South.

Design strategies for enhancing territorial legacy

The case study of a diffused art exhibition to revitalize specific territories in Piedmont region - Italy

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Synopsis

The contribution aims to shed light on the role of the design discipline in building or implementing development strategies for a territory. The text heads toward a practical case study carried out by a group of systemic design researchers of Politecnico di Torino who worked for a multi-layer action plan for Piedmont region, in northern Italy. For that occurrence design has been called to set up a series of guidelines, and then come out with outputs specifically addressed to improve or activate virtuous territorial policies. The points around which the study has been resolved were cultural and tourism promotion through the project of a diffused art exhibition, then developing participatory services, enhancement of local economies and strengthening the relations among districts. The paper turns this research activity providing the perspectives of an evolutionary process in design sphere with precise directions for new diffuse events.

Key words: Network, policy, design for territories, relational design, regional planning.

1. Introduction

The objective is to present some steps ahead toward the contribution of design in tackling territorial instances working on new visions of tourism, developing and strengthening economies and interconnecting governance policies. Our goal is to illustrate that starting from taking a look at the occurrences inside design discipline on the emerging sides of its applicability, then, validating these premises with an applied proof we carried out on design strategies for enhancing territorial legacy. Design discipline is living a phase of great questions about its identity and competencies. The center of the discussion is how design can carry out its original purposes according to the changes of time, societies and mentalities. The capacity to transform reality through better or new solutions, may in fact assumes different shapes and adopt various ways of acting, without the earliest principle does not change. We have dealt with the concept of “project” (from Latin pro-iacere: “throw ahead”) considering the subject of doing that with diverse orders. We have performed “project” in tangible terms, but we have largely left that vision in favor of more conceptual results. We are going to realize that we need to face faster, with the increasing complexity of our reality and of the world we inhabit. Therefore design cannot remain a restricted question focalized on tight, loosened points; it has to become one of the highest expressions of human intelligence and creativity, getting wider to every aspect of life to conceive differently, challenge current values, create new perspectives. It is getting clear that designers are called to evolve a marked capacity of understanding and interpreting our world, conceiving new senses for that dynamism. Design approaches are shifting their goals to more global impacts, no longer to single or defined necessities, they are intended to be responsible and able to guide human behaviors, devising more beneficial relations. It is by no means an easy task given the relative youth of design studies, the extent of cases where design could act as strategic tool and also the blurred borders of a phase that is currently being formed and daily interrogated from internally the discipline first. If design is starting to massively explore the world in its broadest sense, tending to topics inhered to economy, social sciences, territorial planning, artificial intelligence, environment and climate changes’ investigations, big data, it absolutely happens as part of a global and irrepressible phenomenon of big challenges.

2. Design approaches other fields

There is a peculiarity of design sphere that has conducted itself in a long-lasting and profound discussion on own being, in particular that has put it in contact with other circles. Design indeed is not assignable by nature to a unique area of study [Deserti, 2010: 48], it has been always on the border among many fields, except when it was included in a more exclusive manner in the material culture. As Victor Margolin observed, it does not refer to principles that specify its aim [Margolin 1992: 113], the subject is rather defined every time as the profession goes along. Design is not properly autonomous but rather actor and product of a collaborative process of implementation on existing studies; it works bringing inputs from diverse fields to develop further actions according to design methodology. If today design puts itself forward, building new links even with environments further away is due to our time that requires different

responses and often clusters of them. “Design is now becoming more about listening, asking, understanding, and drafting new possibilities and alternative realities” [Muratovski, 2016: 14], it is progressively turning to a cardinal way of thinking where a similar kind of contribution was not usual till recently. This is an hint of the reasons that asserts how design is not separable anymore to the interdisciplinary and transdisciplinary practices.

3. Methodological path

“The Renaissance of Gaudenzio Ferrari”, a Piedmont region project, was an art exhibition spread in three local towns, Varallo, Vercelli, Novara (March 14th – July 1st 2018) established especially to effect a wider initiative aimed at fostering the inlands. We were engaged to reach that at different stages from the communication plan to the arrangement of systemic strategies capable of substantial changes on people and economies. Our contribution has been supportive to other measures driven by the region, the municipalities, the tourism agency and the cultural association Abbonamento Musei that manages the accessibility and the valorization of a great part of the cultural sites in Piedmont and Lombardy.

We outlined three conditions to be actualized in engaged and bordering areas:

– activities as incentives for territorial productivity (what);
– creation of a thick relational tissue between territories (how);
– actions with impact rates in the long term (when).

Sequently, we looked at the territories with an holistic view following the systemic design principles, we approached the issue acting through these steps:

– identification of places
– holistic analysis
– evaluation of criticalities and motivations for change
– definition of guidelines
– project execution
– direct/indirect results mapping
– impact analysis
– definition of new guidelines

The outcomes conducted to, and are still producing, a network of answers in the levels of economic profitability, quality of life, perspectives of growth and government cohesion. We are currently elaborating these data in projection to reach the final planned steps and to resume the design practise.

4. Design deliverables and remarks

We came up with a range of graphic products settled for the communication plan, but already even conceiving the higher tasks, territorial marketing and development. The logotype (Fig. 1), the body copy, the advertisement (Fig. 2), the banners and other visual artifacts as part of the entire identity have been realized with the intent of driving people towards new ways of experiencing places, inspiring interest in different things respect

conventional attractions, and leading to behaviors able to spin lively and productive dynamisms. A more focused work has been made along these lines structuring a digital platform, an open access app (Fig. 3) to share excursions proposals and other initiatives. We fostered the connections among the main actors, including designers and governance agencies, opening promising perspectives of contamination (Fig. 4). We collected lots of signals testifying that design will be the system of thought unavoidable from any sort of inquiry of future realities.

Figure 1. Design phases of the logotype.

Figure 2. Visual advertisement of the diffused exhibition in Vercelli and in the region capital Torino.

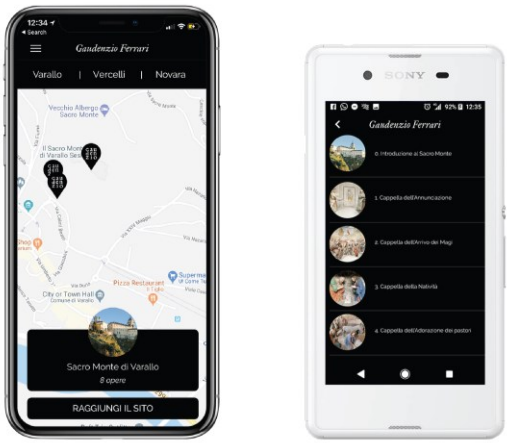

Figure 3. Screenshots of the open App “Gaudenzio”, currently downloadable from AppStore and Google Play Store.

Figure 4. Scapin, a traditional local footwear, realized in a special version in tribute of Gaudenzio Ferrari. Courtesy Moresco Cashmere, Varallo.

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Biography

Paola Menzardi. Paola Menzardi is a Ph.D. candidate at Politecnico di Torino, where she is attending the Management, Production and Design program within the departments of Architecture and Design. She is currently working on research projects focused on building and testing new design approaches effective to taking on territorial issues as economic and social relations challenges. The field of investigation concerns design for territories, urban policies, regional planning. Her project thesis is determined to explore how design can play a deciding role in planning territorial policies, exploiting the principles of systemic design for economic growth, employment opportunities and dynamic social relations.

Pier Paolo Peruccio. PhD in History of Architecture and Urban Planning; Architect and Associate Professor in Design at Politecnico di Torino. Peruccio is Vice Head of the Design School at Politecnico di Torino, director of the SYDERE (Systemic Design Research and Education) Center in Lyon, France and Coordinator of the II Level Specializing Master in Design for Arts (http://www.design4arts.polito.it). He is currently working on several research projects concerning history of sustainable design, systems thinking and innovation in design education. He is co-editor of book series (Umberto Allemandi and Electa Mondadori publishing houses), author of several books on design history and more than 100 articles on industrial and visual design published in International magazines. He has taught courses and workshops in Europe, USA, Latin America and Asia.

Maurizio Vrenna. Maurizio Vrenna is a Ph.D student at Politecnico di Torino who operated in China for more than 2 years. Being saturated with various environmental and social issues, has raised his awareness of the urgent importance of a sustainable development which cannot be realized without a profound change of the current patterns, concrete actions and targeted projects. His career objective is to serve as an expert in the field of Systemic Design, through the research of transdisciplinary design methodologies for the implementation of Blue Economy projects.

Urban rests and green-between

Connection design strategies for stable scrap and health treatments for contemporary cities

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Synopsis

This proposal aims to be a contribution to exploring the role of the architectural and urban project in encouraging actions to improve the health and well-being of the life of city dwellers and the wellness of the cities themselves. Through experimental project on a fragment of city, some principles and criteria of reference are in order to direct urban transformations towards more health-friendly models. Within contemporary cities the linking of residual green spaces represents an opportunity to take care of the city and then a way to be cured by the city, in a development truly sustainable.

Key words: Drosscapes, Green, Health, Infrastructure, Re-Cycle.

1. Sustainable behaviour and new perspective of re-cycle in contemporary cities

In the time of the global crisis, "Society, Environment and Landscape" are the most important issues at the center of ethical, economic and political thoughts that have progressively involved the world of urbanism and architecture, changing objectives and value systems at the base of planning actions and urban transformations.

Over the past decades, a part of the culture of the project - now rightly obsessed with the themes of ecology, sustainability, waste disposal and the urgent need to adopt recyclable materials and resources - has metabolized the aims to define a new intervention paradigm capable of determining a radical transformation of architectural thought. The transformation of the existing has been the center of the reformulation of a different way of working.

Architectural artifacts, pieces of cities, fragments of territories are re-activated through new life cycles, responding to logics inspired by the eco-efficient recycling of 3R (Reduce, Reuse, Recycle) - the key-concept of the green economy - and the 3E (Economy, Equity, Environment) - the ground of ethical-political positions oriented towards economic growth combined with social equity and respect for and protection of the environment. The practice of Re-Cycle, insisting on the re-use of rejected or abandoned architectural materials and also on the activation of a whole life cycles for the city system or the territorial system, allows to work on the existing, considering it changeable, mutable, foldable to other and new meanings. Recycle the existing by changing its sense is a global necessity and at the same time it is a local opportunity for re-signification that can affect individual objects as well as entire parts of the city, triggering highly interrelated multiscalar processes. The field for the application of this type of intervention is represented by the so-called "waste" places, liminal spaces, in the margin, waiting for a propulsive transformation that reinsert them in the urban practices. The waste is what is not useful and has no value: in the city are the residues of urbanization, the landfills, the neglected infrastructure and the fallen into disuse architectures, the abandoned buildings, the materials and outcast people. Looking at the city from its waste, from the fragments of reality that represent its marginal aspects, is a way of being inside the contemporary world, in the current condition of environmental pollution, consumption of resources and soils, economic crisis and social exclusion, replying to a global call to Recycle.

2. Naples' fragments as a case study

In this new perspective, the "waste" commutes its value, it renovates its meaning and transforms itself into an essential material, an overriding aspect of the project. he city of Naples can be considered as a case of exceptional interest under this aspect, where the dross' nature takes a strong interscalar dimension, due to its peculiar orographic configuration, as well as to its secular historical stratification. The structure of the city is founded on a delicate balance of "juxtaposed and not composed" fragments that build its heterogeneous architectural palimpsest and design its articulate urban tissue. In this complex assembly process, the fragments of the historic city, over time and in their

“remaining pathologically linked” to the city’s life cycle, have progressively take on a role of “waste”, changing into “dross of more recent construction urban metabolism”, in a paradoxical reversal of roles. The temporal difference that affects the constitutive parts of the city, through the continuous renewal of the most recent fragments, opposed to the fixity affecting the metabolism of the ancient urban tissue, makes it, in its lack of homogeneity, a real sequence of “waiting spaces”, a weft of waste areas, real urban rests, which can be considered as strategic occasions to trigger virtuous aspects for the reactivation of the city.

Figure 1.

In the dispersion and fragmentation of the space of contemporaneity, which results from actions that did not always take into account the physical and human relationships founding the city, it is necessary to consider the possible interactions that connect different fragments. Working on a network of public spaces, with the aim to improve existing structures through a transformation process capable of responding to human needs, means building urban and social interactions as well as relationships between architectures/parts of cities and individuals. Those interactions have a different and multi-scale nature: between pieces and parts of the city, between enclosed spaces and open spaces, between pre-existing and new, between interior and exterior, between subjects and different disciplines. Through projects with multiple relational skills, urban pieces can be "re-circulated" in connection either with their nearest surroundings or with other complex parts of the city, producing a territorial scale of a new vital urban landscape in which the utmost attention is paid to environmental, economic and cultural quality and sustainability.

The key to understand the Neapolitan case study is to work on a network of connections made by pedestrian paths and public spaces, looking at the mean time to the historical center and the farthest suburbs, including marginal areas, discarded or abandoned, waiting for transformation. The case interprets the waste theme using several levels of reading: the decommissioning, abandonment and destruction are not the only generators of wasteland; there

are uses not well accepted in every settled community, but essential for larger territory. These ones imply the accommodation of people living on the edge of society, treated as waste. The "modern-shaped" mental hospitals, then psychiatric hospitals, represented the materialization of Foucaultian heterotopia: other spaces, rigidly separated from external reality, "containers" of a social dysfunction built for clear mechanisms of exclusion, decommissioned for several decades, they often lie in a state of ruin and abandonment. Reading the contemporary city by layers, new superimposed and subordinated layers profoundly modify the traditional urban dynamics, exponentially increasing the variables to be taken into account. The infrastructural networks constitute a new level that expands the territorial dimension of reference: what was previously considered a resource for the district or the city becomes a potential resource for an infinitely more extensive geography. The "big containers" like the former asylum complexes are established starting from the infrastructures, intertwining, in the complex territory in which we operate today, compact cores and widespread settlements: spaces that are, at the main time, interlinked to the city but part of it, seeking a dimension of relationship with a potentially interscalar context. The system of green areas is also interpreted as an infrastructure, able to hold together the different spatial and temporal scales - from the regional one to the single lot and from the short to the long term.

Figure 2.

3. Re-linking the Provincial Asylum “Leonardo Bianchi” through healthy green infrastructures

Figure 3.

The experimental project on the former Provincial Asylum of Naples “Leonardo Bianchi”[1] , today a shut and introverted fragment of the city, unable to establish, due to its nature, relations with a context so deeply changed over time, has been an opportunity to verify “*in vitro*” the urban possible interactions.

The former Psychiatric Hospital, that was built in a still virgin suburbs, has been joined by urban growth, absorbed by building wefts of twentieth-century expansion with variable density, indifferent to its huge presence, reinforcing its dimension of enclave and fragment. The Bianchi recycling project, structured for different periods and phases, has been a new opportunity to integrate in a single action territory and community, architecture and city, in a vision of a metabolic architecture capable of absorbing more and more resources to make it grow others.

The project has not only been tackled on the physical layer - compared to a necessary idea of preserving the identity of the fragment and the goal of reaching a new dimension of wide usability - but also in relation to the social and cultural fabric that could guarantee the transition from the past to the future.

[1] The colossal Neapolitan complex, about 150 thousand square meters, almost completely fallen into disuse, rises up on a tableland North-West from the ancient city centre in its nearest suburbs, an area delimited by Albergo dei Poveri, the slope of Capodimonte Park and the international airport of Naples

Figure 4.

A green, wide and plural reconnection, linked to the network of non-built residual open spaces and small and large parks, based on continuity, porosity, permeability and functional integration, represents the instrument through which the potential of the fragment-scrap can be expressed and can be connected not only with the other drosscapes of the city but even with its most consolidated green areas and public spaces. This process may transform the separates, individual elements into a new whole green system.

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Biography

Maria Pia Amore. Architect, graduated summa cum laude in 2014, she is a PhD candidate in Architectural and Urban Design at the Department of Architecture of University of Naples "Federico II". Her PhD research focuses on the relations between former psychiatric hospital and the contemporary city. Her wider research interests focuses on the design strategies of intervention, both at architectural and urban scale, on existing building and areas, considering the underused or abandoned built up spaces as a resource, and facing the modification/mutation as an instrument for reaching duration in a perspective of sustainable development. She is also interested on the communication of the architectural project. She joined at several academic researches, national and international design workshops and conferences. She is currently teaching assistant at Laboratory of Architectural and Urban design. As designer, she also takes part to public competitions on both small and large-scale.

Francesca Talevi. Architect, graduated summa cum laude in Architectural and Urban Design in 2015 at the Department of Architecture (DiARC) of the University of Naples Federico II. In 2016, she achieved a 2nd Level Master in Excellent Design of the Historic City. Since 2017 she is PhD student in Architectural and Urban Design. Her PhD thesis investigates the relationships between the fragments of the historic city and urban tissue of contemporaneity, reinterpreting the former in terms of waste spaces. She is presently working as teaching assistant for the Architectural and Urban design Laboratory at the aforementioned University and at the bachelor course of Construction Engineering Architecture of the Department of Civil, Construction and Environmental Engineering (DiCEA) of the University of Naples Federico II. Her wider work see also her partecipation in various design competitions, research projects, national and international workshops.

Urban serendipity or ruling chaos

Bucharest's urban hotspot: Kaleidoscopic chaos

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Synopsis

More and more contemporary architects, urban planners and landscapers experiment and transform our cities in urban laboratories to innovate formulas for intelligent densities, sustainable mobility and greater efficiency. More they design different layouts, more they discover that those areas generated by greater serendipity foster a sense of flow; an urban life defined by chaotic diversity inexorably draw us in. In contrast with our parents, we seek disorder as a means to liberate us from control, routine, homogeneity.
Bucharest is one of the most interesting case studies for urban serendipity, or in another words, understanding an urban planning process that is actually ruling chaos. A city of contrasts, illustrates in a creative way urban serendipity as assembling in kaleidoscopic pattern independent urban projects without a global city scale coherent strategy. These areas become urban hotspot polarizing multifunctional urban spaces and architecture in attractive innovation hubs planned for the unexpected.

Key words: Serendipity, multifunctional, chaos, diversity, kaleidoscope.

1. Introduction. About Bucharest's urban context

Bucharest is one of the cities from the east communist bloc countries that have one of the highest polarization's rates in the current moment. After the economic crisis that started in 2008 and put the real estate development to a sudden hold, the city currently found its new way to grow. The emerging transformation of the north area of the city is, at such speed that exceeds the ability of its inhabitants to self-orientate by generating mental picture of the external physical world, using Kevin Lynch's mental map. Pipera - Barbu Vacarescu - Calea Floreasca area become a fascinating and surprisingly abundant in opportunities part of the city. This urban hotspot polarizes on a physically delimited area (around 10 hectares) one billion Euros in investments and grows into unique urbanscape in Bucharest. Urbanscape shaped from the juxtaposition of objects inserted in context without larger guidelines, without apparent rules and order, still dynamic thru perspective surprises; flourish in places that facilitate cross-overs. Cross-overs between citizens and governments, investors and entrepreneurs, students and corporate, working and retail, living and leisure.

1.1. Bucharest particularities

First, we must understand the historical context.

Sir Sitwell in his memories once defined Bucharest as a city of contrasts with a strong personality embedded most in its atmosphere, not in its monuments. Walk several times on "Calea Victoriei" Street; you began to understand the distinct features of Bucharest and, in extenso, of our nation. Walk several times on Pipera, Barbu Vacarescu, Calea Floreasca area and you feel the current vibe and the new trend of the economical and social life of the Bucharest. Life shapes landscape, this sensitive mechanism of strong interrelation is marvellous illustrated by our case study.

The urban structure followed the rules carefully controlled by regulations plans over the periods of intense building of the city, from the beginning of the century before communism and after. Situated on a confluence of cultures, the city somehow found an original mode to play in a vague area around the rules. This constant attitude to exceed the general or to try to obtain an advantage over the average, created one of the particularities of the city, diversity in styles and heights of the buildings among the same frontage of the street in the traditional urban fabric areas. The same attitude remained until the present, shaping and modelling the new areas of urban development. Bucharest has a valid master plan elaborated in 2000. After 18 years, the city grows and develops mostly thru insertions in or extensions of the existing fabric. Independent projects initiate by the private investors regulates these, without being centralized in a master plan of the entire city.

The decay of large communist industrial complexes that became obsolete with technological advancements during the 20th century had urban consequences affecting the economy and quality of life of entire neighborhoods as many factories closed. Some of these complexes were demolished and targeted of urban renewal projects, while others remained vacant and

abandoned. One of these areas that burst up in the present is the north area of Bucharest, Pipera- Barbu Vacarescu.

Some of these complexes have been brought back to life precisely to accommodate the new economic activities and some of them erased to make place for the new head quarters or offices of companies such as IBM, Oracle, Skanska, Globalworth.

1.2. Social perspective

Second, we must understand the social context.

Most of the employees that go to work every day in this area are young generations with ages between 25 and 40 years old. While their parents experienced scarcity, they grew up surrounded by abundance. While their parents lives were never-ending routines with clear expectations, their lives were subjected to life-changing surprises. While their parents grew, up in the monotony of cookie-cutter, planned communities they were drawn to the chaotic diversity of urban life.

Sennett argues that those of us who grew up in suburbs and are now drawn to urban life are seeking serendipity. We are placing ourselves in circumstances that force us to interact with people who are different from us. We seek a different social and psychological development from our parents. We seek disorder as a means to liberate us from control, homogeneity and habit.

2. Methodology. Bucharest's urban hotspot

The idea of a master planner, imposing a grand urban order has always stood for virtue. It`s a regular approach, a logical one, but also an utopia one. Cities are by nature messy. Bucharest`s business district, the area between Pipera and Barbu Vacarescu has developed in a chaotic process. The area has experienced an urban growth based on private investments and competitive real-estate market highly speculative and restricted to a portion of population. (Fig. 1)

Figure 1.

Beneath the visible surface of chaotic urbanisation, there arose an invisible urban hotspot. Streets are throbbing with the excitement of economic growth (Fig. 2), the area is not just a business hotspot but also one of the exclusivist residential areas. (Fig. 3)

Figure 2.

Figure 3.

By night, Bucharest`s business district is becoming a hub of fine restaurants, bars and clubs. Some of the most exclusive places are located on the shore of Floreasca Lake and Tei Lake. By night, there is a new urban scene; the rush of the movement experienced by day is replaced by a vibrant nightlife.

The nightlife of this area not only provides social opportunities for the residents, but also contributes to the uniqueness of this place, boosting the sense of identity so desperately sought by urban planners and citizens. (Fig. 4, Fig. 5)

Figure 4.

Figure 5.

3. Conclusions

Density, proximity and physical space for interactions are essential for the very existence of cross-overs.

So, is it urban serendipity a way to shape a city? Nan Ellin considers that the places in flow are not inexorable grids. However, they have a certain degree of unexpected, contrasts which vibes in an attractive and mysterious zigzag movement that assure us a bliss point between excitement and comfort area.

This area concentrates density of people, cars and interests that pulse into a vibrant rhythm of life. The next step into improving the quality of space and life will be the measures that facilitate the free flowing of the energy, people and information in between buildings. To erase any physical boundaries between different properties and create a various range of public spaces to connect and quickly transform this urban fragment into buzzing innovation hubs.

Given the range and nature of this chaotic development, with its complexity and confusions, designing a master plan to envision the future of this area would not be sufficient.

The approach should include bottom-up interventions, small-scale urban solutions experienced by people. Planning should rely on understanding the spirit and the intensity of this place. The area development is an example of how a city can thrive when they is driven by urban serendipity.

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Biography

Simona Butnariu. Lecturer at Faculty of Urban Planning, University of Architecture and Urbanism “Ion Mincu” (UAUIM), Bucharest.
She graduated in 2000 as architect at UAUIM, in Bucharest. She has a rich academic activity, teaching on urban planning, urban and landscape design and architecture topics since 2004.
From 2014, holds a PhD title in Urban Planning at UAUIM, Bucharest, with the thesis: THE CITY - HUMAN INTERACTION SPACE - The ambiance in contemporary streetscape.
She also is involved in a various and large professional activity from graduation as author or coauthor on many architecture, urban planning or urban design projects. Her architectural and urban planner portfolio contains various types of works, ranging from the scale of an object to a large scale of territory in strategies and projects.
In 2016, she founds her own company Urban Artgrid and she is involved in numerous urban infill projects and conversions of the brown fields, mainly in Bucharest urban tissue. She is also involved in research activity publishing articles and studies about urban and architectural projects.

Andrada Eftime. PhDc, teaching assistant at “Ion MIncu” University of Architecture and Urbanism. She graduated in 2004 at “Ion MIncu” University of Architecture and Urbanism with a degree in Urban Planning.
Her urban and landscape planner portfolio contains various types of works, ranging from urban and landscape design (private gardens, communal spaces, historic sites) to territorial strategies and projects for regulating different regions in the country.

Landscape Consumerism vs Social Sustainability

Recovering social connection within the urban landscape. A DANUrb Innitiative

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Synopsis

The social networks, the digital photo and the smartphone are, no doubt, essential tools of the beginning of the 21st century. Their effects on the society's structure are more and more complex, while superficiality becomes the main feature of the individual. The ease of swapping from one frame to the next, the slalom between virtual social networks and screens, the excessive accessibility and the duality of the two complementary and partially overlapping worlds have now visibly impacted social connections and even the individual's capacity of recognizing the physical space he spends time in - working, moving around.
The landscape has been gradually losing its transformative and multidimensional role in becoming a commodity. Instagram, Facebook, Twitter are the go to places to prove oneself, to live, to connect, all the while floating randomly within a space lacking both dimension and identity.
This paper aims to explore the way in which the landscape metamorphosis can determine social cohesion, in a vision of temporal, spatial and identity continuity. In this context, DANUrB Project is an experimental approach, regarding the landscape heritage and its potential for a more responsive society. Consuming the landscape as cultural and identity space could be an instrument to bring people together, to encourage the social interaction and re-activate lost or forgotten places.

Key words: Landscape, society, identity, globalization, sustainability.

1. Introduction. About Landscape and Society

The paper explores the current development of landscape perception and it's actual use of space nowadays. Interaction between men and its environment tends to be shallow, stripping away the landscape's role to create and shape the society. The background for this relationship is basic survival, with echoes of aesthetic and economic values.

The 21st century landscape incorporates multilayered structures of the physical context, complex in its diversity of shape, resources and space – befitting of a consumerism driven society. This socially fragile landscape is a mixt of structural multiplication, variety and discontinuity that has amplified the sense of estrangement brought by the explosive urban development.

As Hărmănescu&Enache say, a smart landscape brings a sustainable answer to the anthropogenic demands. (…) The actual context requires solutions which integrate in a sustainable and resilient approach, but in the same time belonging to the 21st century. The natural – anthropogenic dialogue should become a technological adaptation of the traditional solutions.

Lefebvre introduces the social dimension of space by concluding "social space is a social product. Each mode of production has its own relationship with space and it produces its own kind of space ". Kevin Lynch explores the needs of cities to be legible, he defines the structure of a landscape as being its core identity and meaning.

As Norberg-Schulz puts it, "space is a necessary part of our existence" and it is composed of objects with individual meaning and a larger context of multiple spaces and links.

The modern way of living has inflicted aggressive changes in the social DNA, modifying its nature and structure. The contemporary city enables us to connect to a limited number of individuals on a daily basis, throughout one's life, using a variety of communication channels and ensuring increasingly fragile and randomly shallow connections.

2. The consumption of space in the Information Era

While describing the ways of environment interaction within modern society, Paul Andreu argues that *"figuratively speaking, we use things and then throw them away. We are witnessing with our own eyes how space is losing its meaning to man's life. (…) it has become a mental isomorphic structure, a world of pieces, incomprehensible"*.

We often talk about the variety of ways of communication. We devour virtual space. We live our lives through an interface for reality provided by our smartphones. We are so concerned with being present in the virtual space that we've lost all interest in the real one. The very personal experience of the space is reduced to the tap it takes to snap the picture.

Weather it is a natural or an urban landscape, the emotional perception has changed dramatically in promoting virtual space. We are on the verge of a

social crises generated by the lack of connection with real, physical space and its tangible values.

As Enache&Căplescu say - in the context of informational era the place becomes more than a space containing specificity and identity; it is necessary to adapt to the new dual structure, where the virtual adds a new dimension to the physical space.

3. Linking the landscape and the society – a sustainable approach. A case study of the DANurB initiative

Exploring different tools to strengthen the ties between regions, communities and users is a challenge for all of us, one the EU has welcomed by providing the proper channels and resources to research and implement (pilot) projects throughout its territory. One such initiative currently taking shape is DANUrB, a joint venture of the seven Danube countries to create a stronger, common brand and transcultural connection along the rivers promenade.

The seven partners - Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria – are working together to find proper, specific solutions for each segment of the river landscape.

The aim is to create a comprehensive spatial-cultural network that links offline and online communities along the river and successfully define a common strategy to build a strong multicultural identity, with local, specific variations. The local vision on the use of the space and perception of the promenade will give communities that sense of belonging that ensures emotional ownership of the project.

Each of these unique approaches adds to the landscape's diversity and is a valuable resource in itself for any other top-bottom or bottom-up initiatives.

The study addresses the relationship between Landscape and Society at different levels and scales – from territorial landscape to local urban landscape. Starting from the macro-landscape of Danube river, are developed local initiatives having the role – both to analyze the natural and built heritage, and to visualize solutions of revitalizing and making or strengthening identities. Danube would become a route of cultural identities, which aim would be to integrate the communities into unity of diversities.

Giurgiu – one of the Romanian cities integrated in the DANUrB Project - considering the recent history of this city developed as an industrial center - both in terms of location on Danube river and as a border town - offers a vast heritage of mostly nonfunctional and abandoned sites and buildings that can become an important potential and also shaping a new identity. During one of the workshops, it was investigated the typological and morphological variety of the built heritage - especially architectural and postindustrial by looking at the layers that time left in the city's structure. Looking at a transversal section through the history – postwar/ postindustrial/ contemporary this workshop analyzed cases/ examples of good practices and also proposed new solution for compatible integration of modern activities into existing culture and landscape. The focus was to bring to front the built heritage that can be re-activated on the

Danube river and revealed the hidden architectural and postindustrial sites by putting them to another level in the city's history.

4. Conclusions

The concept of continuity starts from the idea of sustainability, preserving existing resources, by revitalizing some architectural elements and emphasizing social infrastructure.

The vision of regional sustainable development aims to highline the possibility of further evolution by connecting postindustrial areas or unfinished structures in the cultural, social and leisure network. Correlation of functional levels of the urban organism – like mobility (pedestrian, cyclable, railway, naval), natural and urban landscape is crucial. Any such initiative will also act as a social binder, becoming a dynamic network activity, and at the same time capitalizing on the cultural valence of the city as part of the process of creating a new regional identity.

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Biography

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PhD thesis title - The Urban Landscape in the Information Technology Context – study of new technologies implications and tendencies in the traditional urban structure.
She is a managing partner at ARTTEK C.B., and a member of a number of professional organizations.
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Passionate project manager for a multinational company that develops, manufactures and markets green, ecofriendly, sustainable building and insulation systems.

The participation of the society in the conservation of the architectural heritage

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Synopsis

The architectural heritage is an evidence of past civilizations and shows our richness and cultural diversity, which gives it an important educational value for the whole society. Therefore, it must be preserved, protected and put into value.
The 1966 New York Covenant establishes two essential rights in this area: the right of the citizenship to access the Culture and to participate in cultural life.
The Granada Convention is the doctrinal core of the architectural heritage conservation and protection at international level and includes among its lines of action the awareness of the society in this regard.
In the XXI century, it is necessary to look for new strategies to draw maximum value of the educational and social character of the Architectural Heritage.

Key words: Architectural heritage, Architectural protection, New technologies, Education, Granada Convention.

1. Introduction

The architectural heritage is an evidence of past civilizations and is a proof of our richness and cultural diversity due to its historical, archaeological, artistic, scientific, social and technical importance. This means that these immovable objects not only have value for experts of different fields, but also has an important educational value for the whole society. Therefore, it must be conserved, protected and put into value.

In 1948 the UN approved the Universal Declaration of Human Rights, later expanded in the New York Covenant of 1966, which establishes a series of important social achievements, such as the right of the citizenship to access the Culture and the right of every person to participate in cultural life. The recognition of these rights leads to the Public Powers obligation to adopt effective actions to support and to encourage the social action of the Culture.

Nowadays, the Convention for the Protection of the Architectural Heritage, commonly known as the Granada Convention is the doctrinal core of the architectural heritage conservation and protection at international level and includes among its lines of action the awareness of the society in this regard.

2. Granada Convention

In 1985, the Council of Europe promulgated the Granada Convention, which establishes the essential guidelines to be followed by national laws of protection of Historical and Cultural Heritage in order to incorporate the so-called principles of "integrated conservation".

The spirit of the Convention is to preserve the architectural heritage as a valuable asset in today's society. In this regard, the protection of the architectural heritage serves as the starting point to establish the guidelines for its integration into the current socioeconomic system through the development of policies that enhance its economic, social and cultural value, resulting in a key element of the development of regions and states.

Leaving aside the legal procedures for the protection of the architectural heritage, the Convention intends to put it into value with measures such as:

– To turn the heritage protection into one of the objectives of the urban planning and the territorial management of cities, so that old urban centers are revitalized, maintaining the traditional social environment of historic neighborhoods.
– To adapt it to contemporary life by assigning it a social function, always respecting its historical and architectural values.
– To allow access to the public and to promote information policies.
– To make it an element of study and research, a source of inspiration and creativity, and ultimately, an element of cultural identity.

The achievement of these objectives involves the training of qualified professionals and a strong economic investment with an expected high return rate. The specific objectives listed can be summarized in the idea that citizens feel the architectural heritage as their own. The internalization of heritage by the

society is its best defense and the best mechanism for its revaluation and usefulness in the present and the future

3. Results and discussion

Despite the current growing demand of tourism, it can be observed that there is a great distance between the concept of architectural heritage and the awareness of most of the society. This does not mean that citizens do not value this heritage, but they see it as something they have the right to enjoy, but in whose protection they are not necessary involved.

This aspect is more evident as we approach the present time: in general, society is less interested in the architecture that is not characterized by its historical value.

In this regard, architecture professionals must do self-criticism and learn to transmit the values and importance of the more modern architecture to their fellow citizens.

For this purpose, new technologies are fundamental in this process. An example of this is the research project carried out within the framework of the project: "Plaza de Valencia. Heritage and collective memory ", developed between the Provincial Council of Valencia and the University of Valencia in 2016 whose objective is the activation and revaluation of the Plaza de Valencia (Spain) via the use of new technologies. The project consists of the creation of an interactive and personalized application of augmented reality that the user can use to take a tour in which multimedia material (photography, audio, video and text) overlaps the physical space of the square and its surroundings through their screens.

This project, in which the interaction and participation of the user is fundamental in the visit of the architectural heritage, shows the right path to follow, where learning turns into a kind of video game completely accessible and in which all citizens can participate.

4. Conclusions

Among the guidelines set by the Granada Convention for the protection and enhancement of the architectural heritage, one of the fundamental pillars for its inclusion in contemporary life is the awareness of society.

In the XXI century, the digitization of heritage and the offer of interactive itineraries (such as the use of augmented reality) are presented as a strategy not only for patrimonial activation and a cultural and economic engine, but as a learning tool for citizens. Above all, it is necessary to be aware that the architectural heritage is a non-renewable good, and therefore the appropriate resources must be put in place to guarantee its conservation.

Only by highlighting the links between architecture and lifestyles, it will be understood that heritage not only serves to transmit a cultural reference system that helps to understand society, but also serves as a basis for the culture of the future.

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Biography

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Participation in Congresses

– 2nd International Conference on Technological Innovation in Building. Madrid, Spain.
"La legislación española en materia de protección del patrimonio arquitectónico y la Convención de Granada: cumplimiento y medidas de mejora". ISBN: 978-84-16397-56-3.
– Congresso Ibero-Americano "Património, suas matérias e imatérias". Lisbon, Portugal.
"La evolución de la protección del patrimonio arquitectónico en la Unión Europea desde el punto de vista legislativo". ISBN: 978-972-49-2288-1.
Both in collaboration with Antonio Humero Martín (Titular Professor in Universidad Politécnica de Madrid).

Projects

In 2014 I started to collaborate in a research project on the work of collective housing of Mies van der Rohe, as part of the research team ARKIT in Escuela Técnica Superior de Arquitectura de Madrid.

Antonio Eduardo Humero Martín. Architect since 1982. PhD Architect since 1997.
Titular Professor of the Universidad Politécnica de Madrid (UPM).
Deputy Director of the Department of Construction and Architectural Technology and Coordinator of the final project in "Fundamentals of Architecture" of the School of Architecture of the UPM.
Director of several masters and specialization courses and teacher of Legal Architecture since 1983 in the Department of Construction and Architectural Technology of the Architecture School of the UPM.
Author of more than 100 publications, in indexed journals, books of own and shared authorship, book chapters and contributions to congresses.
Researcher of several research groups in the Area of Knowledge of Architectural Constructions of the UPM.
Researcher of more than 100 projects belonging to the specialties of building pathology and responsibilities in construction, urban and land planning and expropriatory and urbanistic valuations.
Director of more than 10 doctoral theses.

A Poetic Landscape for the Next Millennium

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Synopsis

When asked to deliver the Charles Eliot Norton Poetry Lectures at Harvard about the future of literature, Calvino came up with six qualities depicting each one through several literary examples. He titled them “Six Memos for the Next Millennium.”

Similarly, we recognise several architectural sensations resulting from a composition of expressive qualities that are transversal to several works of architecture, independently of their typologies, construction techniques, materials, although these elements enter into the aesthetic composition.

Central to our argument is the link established by Deleuze & Guattari between territory, matters of expression and the composition of sensations to define what we name of “Poetic Landscape,” following the idea of the becoming-expressive of the territory and how the territorial marks and the territory-house system are at the origin of art.

We will analyse a landscape located in the cold and icy lands through the presentation of works by Peter Zumthor in order to contribute to the notion of Poetic Landscape addressing the values and qualities for the next millennium.

Key words: Poetic Landscape, Aesthetics, Sensation, Zumthor, Deleuze.

When asked to deliver the Charles Eliot Norton Poetry Lectures at Harvard about the future of literature in the upcoming millennium, Italo Calvino came up with six values or qualities in literature: lightness, quickness, exactitude, visibility, multiplicity, and consistency. He depicted each one (except the last one as he died before finishing the essay) through several literary examples to which he felt particularly connected. The Cuban-Italian author titled them “Six Memos for the Next Millennium” as for him literature was universal, independently of national languages, and timeless, independently of any epoch.

Similarly, we recognise several architectural sensations resulting from a composition of expressive qualities (matters of expression) – namely the sensations of intimacy, silence, and contemplation – that are transversal to several works of architecture of different epochs, independently of their typologies, construction techniques, materials, although these elements, as in a work of art, are part of the aesthetic composition (though appearing already metamorphosed). Sensations have a direct action and impact on our nervous system, obeying our bodies to mould to the space as we are invaded by the power and effects of sensations unfold in and by the differences in intensity. Philosophically speaking and following a Deleuzian idea: the sensation holds a paradoxical character, it is what cannot be sensed, because it reaches the limit of sensibility (of what our bodies can bear) and, at the same time, it is what can only be sensed and never explained outside of what is sensed.

Central to our argument is the link established by Deleuze & Guattari between territory, matters of expression and the composition of sensations to define what we name of “Poetic Landscape,” a borrowed title from an unrealised project that Peter Zumthor had made in collaboration with a literature group in Detmold in the years of 1998 and 1999 (Fig.1). Zumthor believes that the project did not die at that moment as it is still showing signs of life. There is, for example, an obvious link between the projects Zumthor had made for the Poetic Landscape and the *Bruder Klaus Kapelle*. However, most importantly, the project allowed him to think differently about the relation between architecture and landscape as expressed in two main texts: “Houses for Poems,” written for a lecture presented at the 9th literature meeting in Schwalenberg in 2001, and “Architecture and Landscape,” an addendum to a new edition of *Thinking Architecture*.

Figure 1.

The Poetic Landscape project by Zumthor and both his texts allow us in turn to think about the relation between architecture, philosophy and art, and the common problematics of the composition of sensations in space. As a philosophical category (coined by us), Poetic Landscape has its roots in Deleuze & Guattari's idea of the becoming-expressive of the territory and how the territorial marks and the territory-house system are at the origin of art. As the authors comment: "Perhaps art begins within the animal, at least with the animal that carves out a territory and constructs a house […]. The territory-house system transforms a number of organic functions - sexuality, procreation, aggression, feeding. But this transformation does not explain the appearance of the territory and the house; rather, it is the other way around: the territory implies the emergence of pure sensory qualities, of *sensibilia* that cease to be merely functional and become expressive features, making possible a transformation of function."[1] For these authors, we can only call territory when it presents these expressive features.

A Poetic Landscape is thus a type of landscape, a constructed land-scape, that implies a different way of looking, perceiving and understanding landscape using sensibility and intuition as modes of perception in order to extract from the landscape its traces of expression, its lines of force, the sensa-tions it composes, its materials and their inner composition (almost like the fi-bbers of a tissue), but, most importantly, it means a transformation, when all these forces, lines and materials are metamorphosed into matters of expression of a work of architecture through the architect / artist composition (land artists are quite familiar with these processes and Zumthor is close to them on this point).

Our current research focuses six vast landscapes (six landscapes for the next millennium) from the cold and icy lands to the tropical islands and the desert. The landscapes are selected due to their unique characteristics, their natural diversity, and sometimes extreme conditions providing important data to future uses of resources and promote sustainable use of the ecosystems and endogenous processes. It is urgent to map these landscapes in turn of their singularities, *haecceities*, weather, techniques, traditions, rituals, and the natural and human processes embedded within them as these characteristics are metamorphosed into the built work as matters of expression (the work's aesthetic composition) in order to compose a certain sensation (Figs. 2, 3).

[1] Deleuze & Guattari, *What is philosophy?* New York: Columbia University Press, 1994, p. 183.

Figure 2.

Figure 3.

Consequently, there is a necessary connection between a Poetic Landscape and the work of architecture that preserves a block of sensations. We will analyse part of one of the six vast landscapes, located in the cold and icy lands through the presentation of examples of works by Peter Zumthor privileging the Steilneset Memorial in Vardø as this work and landscape were already objects of a first expedition. (Fig.4) The expedition presupposes an “art aid” kit, containing filmic, literary and other artistic references (important to understand how a certain sensation is composed through different artistic practices departing from the same landscape – for example, how Tarkovsky exposes the house from *The Sacrifice* to the elements finds its resonance in the Steilneset Memorial, being Tarkovsky one of Zumthor’s references as well), and

a complex bibliography spanning from philosophy to neurology with the aim of collecting all the data that enter into the composition of the sensation. These elements can only be recollected *in situ* after long periods of observation, across different seasons, resembling a nomadic and scientific scrutiny where the body becomes a resonance box, registering the dissonances, turning points, and thresholds of the sensation.

In the end, through architecture and the depiction of how specific architectural sensations are composed *in* and *through* space, we will be able to contribute to the (philosophical, architectural and artistic) concept of Poetic Landscape addressing the values and qualities for the next millennium: to inhabit poetically the world.

Figure 4.

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Biography

Susana Ventura. (Coimbra, 1978) architect, curator and postdoctoral researcher in Theory of Architecture and Aesthetics (Philosophy). Currently, she is developing a postdoctoral research project *Towards an intensive architecture: how to compose sensations in architecture*, at The Faculty of Architecture of the University of Porto. Within this project, she was awarded the Fernando Távora's Prize, in 2014, comprising an expedition to Japan, Switzerland, Austria, the Czech Republic, Sweden, and Norway.
She holds a Ph.D. in Philosophy (Aesthetics) from the Faculty of Social and Human Sciences of Nova University Lisbon (FCSH-UNL, 2013), under scientific supervision of José Gil, a renowned philosopher (close to Deleuze), with the thesis *Architecture's Body without Organs*, which included research residences at the architecture studios of Diller Scofidio + Renfro (New York), Lacaton & Vassal (Paris) and Peter Zumthor (Haldenstein), and for which she has received a four-year Ph.D. grant provided by FCT, Portuguese Foundation for Science and Technology (2007-2011). She is also an architect graduated from Coimbra University (darq – FCTUC, 2003).

Re-design Geography of spaces

Widen the edges

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Synopsis

Landscape project always works with nature: something perpetually transforming, expanding and retracting, without any rigid limits; it gives thickness to the edges, and looks at the "uncertainty" as one of the conditions in which the future scenarios can be prefigured.

The contemporary territory has been described by features of complexity and uncertainty; a place where edges and internal limits are undefined, dynamic, and porous. Therefore, assuming the way of thinking of a landscape architect, it can be useful to understand and design that kind of places (Corner, 2006).

The main characteristic of contemporary city is to be fragmented, that means lack of relations among places, and presence of many "other spaces" (Foucault, 2001): heterotopics, utopian and empty ones. Therefore, this kind of situation has led to disorientation, and it causes deprivation of the landscape.

A paradigm shift is required (Ricci, 2012): new ecological continuity and public uses must to be implemented among fragments.

Key words: amplify, re-connect, transform.

1. Read the context

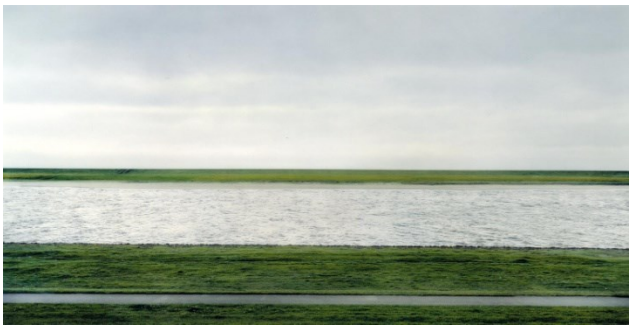

Figure 1.

The most expensive photograph in the world, Rhein II, was sold for $4.3 milion at Christie's, New York. The landscape desolation pointed out in this photograph has a specific intention: the author Andreas Gursky explains that: "It says a lot using the most minimal means [...] for me it is an allegorical picture about the meaning of life and how things are". In the image, a river flows horizontally across the horizon, between flat green fields, under a cloudy sky. He removes all traces of people and factories; to justify the manipulation, Gursky says: "the reality does not exist as such, but only as a construction". The artist, through his picture, faces us up to a critical question with a not so easy answer; a wistful and confused visions in between " bucolic dream and industrial nightmare"[1] (Gursky, 2017). A sublime image which, close to the romantic thought of Kant, recognized the human limits against nature. However, Gursky restores ordinary, quiet and "contemporary sublime", trying to give rule and sense (the irreversible sense of the flow of the river) in the Ruhr's fragmented and disordered scenario.

As a landscape architect, Friedrich's Wayfarer[2], has a crucial role: he embodies expectations and existential questions, his task is to question the landscape in which he is placed, seizing any replies in order to transmit them to the observer, therefore he absolves the role of intermediary. Nature, often reduced to "third landscape" as in Clément's notions, is looking for its place in the dense city and across industrial fringes, brownfields, and other urban drosses (former plants, former factories, former sheds and mental hospitals, etc). The environment thus can be seen as "liquid-center", green heart and welfare generator.

After all, returning to Gursky, this is the real sense of the Rhein in Dusseldorf and in the whole Rhur.

2. Defining strategies

As often happens, urban planning is considered a cure for a "disease", as a tool to improve a condition that is progressively worsening (Benevolo 2000, Secchi 1984 e 2000). Working with the landscape means going beyond any aesthetic view. The landscape project is able to produce concrete effects on the contemporary city, restoring the lost natural balance, acting on its metabolism. The

[1] Gursky in the 90's made it his first analogic landscape showing a fragment as part of a whole landscape. He decided what show it, even though without post production, the final image is unreal, he idealizes the landscape making it an abstraction of reality.

[2] "*Wanderer above the Sea of Fog",* Caspar David Friedrich

goal is to look at the landscape as a spatial system, with a temporal continuity: an entity generated by the development of spatial relations and flows that rejects a fragmented reality. And moreover, reusing spaces, especially dross-ones (abandoned and degraded space, etc), with their emergent memory value, is "an opportunity to fill the hiatus of the void between past and future and bind them in an action that celebrates the identity of a place and projects this identity into the future" (Nunes, 2014).

Working into fragmented and degraded territories in search of new networks and opportunities of openness horizons, allows to move away from the sectoral approach, from which they derive (Russo, 2011).

When flows find an obstacle, a limit, they end up being an organic and continuum system and they turn into a fragmented spot. Therefore working on the limits can be a good starting point with a view on a rhizomatic reconnection (Fig. 3) (Deleuze & Guattari, 1980), in order to push the vanishing lines to the infinity.

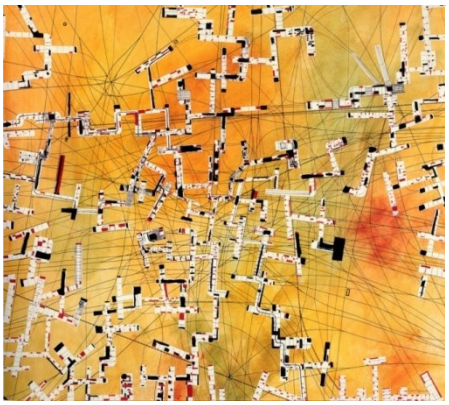

Figure 2.[3]

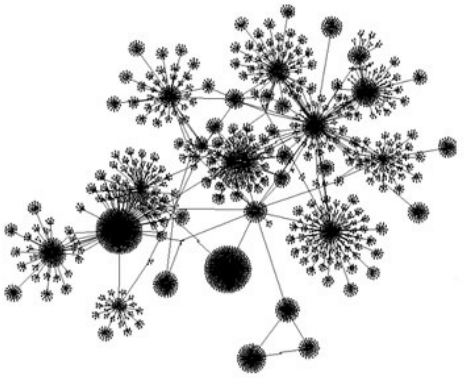

Figure 3.

The rhizomatic connection opposed to the arborescent top-down system, finds similarities in Secchi's capillary vision about mobility in the contemporary city, which is comparable with a porous and deformable sponge. Damages caused by modern city (indeed, on the contrary, comparable to a rigid and hierarchical system) are clear. The infrastructures have produced insuperable barriers and no-man lands: all spaces that today are potential resources to reconnect parties and fragments going beyond precincts and fences.

Turning over the concept of limit: "The limits interfaces, canopies, boundaries, margins, borders- constitute biological thicknesses. Their richness is often greater than the external environments "(Clément, 2005). Therefore we must look at the edges not as impassable rigid boundary, but as porous thicknesses, rich of information and able to grow.

Looking back at the "Emerald Necklace", the system of parks (Figure 4) by Frederick Law Olmsted in Boston, implemented during the nineteenth century, a strict identification of geographical structures and landscape design is that come up. Basing on these experiences, could be said that "amplified" method of

[3] (Fig. 2) *New Babylon* (1956-1974) is a networked city project conceived by the Dutch artist and architect Constant Nieuwenhuys for the “total fulfilment of life”, an approach to urbanism based on the freedom of the individual through the power of play and creativity. Theoretically, New Babylon has come out as a universal structure capable to branching out to colonize a territory.

management of the landscape could be a good way to provide geographical anchorage for fragmented urban territories.

Moreover, working on borders, to give them thickness, creates new possibilities. The edges define connections, not as confined "greenbelts", but as open and porous interfaces.

The interference created by different paths would reconcile the two worlds, natural and artificial, making possible a global view, as an "Amplified Geography" (Desvigne, 2012).

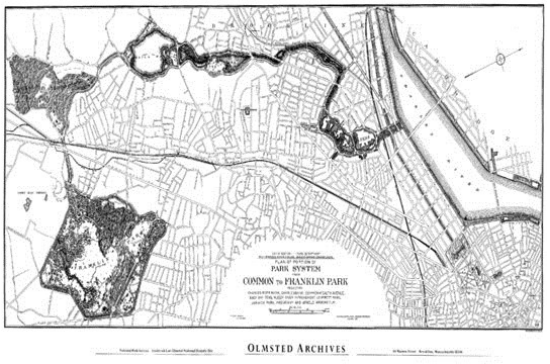

Figure 4.

Figure 5.[4]

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Biography

Enrico Formato. Architect (2001) and PhD in Urban and Regional Planning (2007), assistant Professor at Department of Architecture (DiARC) of University of Naples Federico II. He obtained the National Scientific Qualification as Associate Professor in Urban and Regional Planning in 2014. He contributes to academic researches in the fields of urbanism, urban design and landscape: Prin, "Re-Cycle Italy", Horizon 2020 Research "Repair", responsible of Urbact "Sub>Urban" for the City of Casoria. He is involved in professional design activities for open public space and urban planning. He has been scientific responsible for the Structural Plan of Casoria (2013-15). Author of monographs, articles and reviews published in books and scientific journals, national and international spread, he has been speaker at seminars and conferences, participated in exhibitions, and has been invited as tutor or referee in several design workshops. Since 2013, he joined the editorial board of the scientific journal CRIOS, Critics of Spatial Systems.

Francesca Garzilli. Graduated in architecture in April 2016 with Urban Planning thesis, aims to do the ex-psychiatric hospital Leonardo Bianchi, a hub between different urban and territorial areas. The project will be developed for intervention phases, considering the ongoing process, and open to future changes. Since 2013, thanks to the Erasmus experience at Techiniche Universitat of Berlin, she started to work on urban planning and landscape and their central role in the contemporary city. After the degree she spent one year in Paris, where she worked at Michel Desvigne Paysagiste studio, deepening her interest in the landscape. From January 2018, she has been a PhD student with a research program in Landscape and Urban Planning at Federico II University in Naples, with a great interest in the regeneration of critical site by landscape's tools.

Syria: From Destruction to Reconstruction

Use of War Demolition Materials in Rural Housing Constructıon in Syria

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Synopsis

Seven years of destructive war in Syria caused huge damage in different sectors, the amount of waste materials came out of destruction clearly created a big problem to manage and solve in the post-war reconstruction era. This paper aims to suggest and investigate the future possibilities of using the destruction materials in housing building and reconstructing for internally displaced people and refugees willing to return to Syria.
The need of architectural innovative solutions, force a new mentality in construction materials science, reconstruction management and urban planning; since the project is suggesting to build housing modules in rural areas of northern Syria using materials from the rubble. This will achieve different goals, recycling the materials, because construction materials are rare and expensive, and manage cities reconstruction effectively, giving space to community healing.
An alternative approach proposed for a retroactive interaction with other disciplines for a holistic vision solution of the post war reconstruction in Syria.

Key words: Reconstruction, waste materials, rural, planning, Syria.

1. Introduction

The debate about post-war reconstruction has been ongoing during the last seven years of the continuous Syrian war. The increasing volume of destruction in different big cities has created a need for new ideas and innovative building solutions. Many studies have tried to suggest solutions comparing other countries ruined by wars. The case studies have considered similarities and differences demanding innovative ideas and non-traditional solutions for the reconstruction of large Syrian cities such as Aleppo and Homs.

Rural communities in Syria were always presented as self-sufficient societies, economically, demographically, socially and even culturally. However, rural areas have had poor regional planning. Development efforts have concentrated upon urban areas. The dramatic gap of available services between rural and urban areas released a wave of migration to cities. The number of inhabitants in rural areas has decreased by 17% from 1960 to 2010 [2].

Due to the war in Syria, the direction of migration has alternated for many reasons. The main reasons for migration to rural centres are due to the relative safety of rural areas and the less damaged infrastructure compared to the destruction in the cities. People originating from the rural areas surrounding the cities have also returned to their home villages and towns due to losing their city jobs and have also found the possibility to work in agriculture to secure their minimum needs for living, i.e. water, energy and food[17].

For example, a village such as Dabiq in Northern Syria has grown from a population of 4,800 inhabitants in 2011 to 8,945 in 2015. With the liberation of the village from the control of ISIS, the population has increased as refugees return from Turkey and other areas in Syria and has reached a total population of 12,568 in January 2017. Syrians are similarly returning to the 1,476 villages and 1,312 farms in the areas that have intact infrastructures and services in good condition. The number of migrating people to the rural areas is even causing a housing problem.

This project proposes to provide transitional housing in rural areas for the returning Syrians to answer the above defined housing need in the rural areas, and also to align with the United Nations 2030 Agenda for Sustainable Development for rural development as outlined in Agenda points 24 and 34, as well as Goals 2a and 11a [16]. Assuming that approximately 20% of the Syrian exiles from the Aleppo region currently residing in Turkey would like to return to Syria and do not have a residence, if evenly distributed, 70 people will need new houses in each rural centre meaning that eight to ten houses will be required per rural centre.

The difficulty to import and transport building materials into the region favours the use of locally available materials and traditional construction and building techniques. The design concept is to integrate the local rural vernacular architecture of Northern Syria for transitional housing while considering the contemporary needs of the new and previous residents of the rural centres. To achieve this goal, the project studies, analyses, and experiments with different possible design concepts based upon the local adobe building tradition. The design solution will integrate an easy to construct building concept as an alternative to

tents camps, “which often are militarized in the sense that fighters are recruited among the refugees by insurgents, which may even transform refugee camps into training camps and bases for rebel groups” [13].

2. Related work

Two fundamental approaches for reconstruction have been adopted in the literature: “technology-based approach” and “community-based approach”. While technology-based approaches using housing imports from developed countries, the community-based approach is based on the principle of taking advantage of local resources in reconstruction process[8].

As a response to the major 2010 earthquake in Haiti, Konbit Shelter has been rebuilding housing using “Super-Adobe” construction, a design developed by Nader Khalili and Cal-Earth.Fig 1.[3]

Figure 1. Completed "Konbit Shelter" house in Haiti(left) ,Baniniajar Refugee Camp Emergency Shelter, Khuzestan, Iran © CalEarth(right).

Fourteen disaster relief shelters for the Baninajar Refugee Camp in Khuzestan, Iran were commissioned from CalEarth in 1995 as an initiative of the United Nations Development Program (UNDP) Tehran, in cooperation with the United Nations High Commissioner for Refugees (UNHCR) Tehran. The structures are visible in Fig 1. It is assumed that the structures have been destroyed after the dismantlement of the camp.[4]

“Better Shelter”, Ikea Foundation’s flat-packed refugee shelter project together with the UNHCR designed to last up to three years. The shelters are an alternative to tents and are designed as temporary shelter, Fig 2. [9,10].

Figure 2. Ikea Foundation’s © “Better Shelter” (left), “Hex House” by © Architects For Society P.S.C(right).

Hex House by Architects for Society is a modular housing unit composed of galvanized steel and insulated metal panels. Similar to the Better Shelter, the housing units are to be shipped for assembly on site.

None of the above projects has proposed a new design based upon an existing regional building tradition. Only Konbit Shelter has utilized local vernacular elements. Half of the projects propose self-assemblable housing kits with fully imported materials. The others use earth tubes with local soil for building material.

3. Learning from Syrian rural housing tradition

The typology of rural houses in Syria is classified in four main types: [6]

3.1. The basic house

This is the most elementary typology, Fig 3.

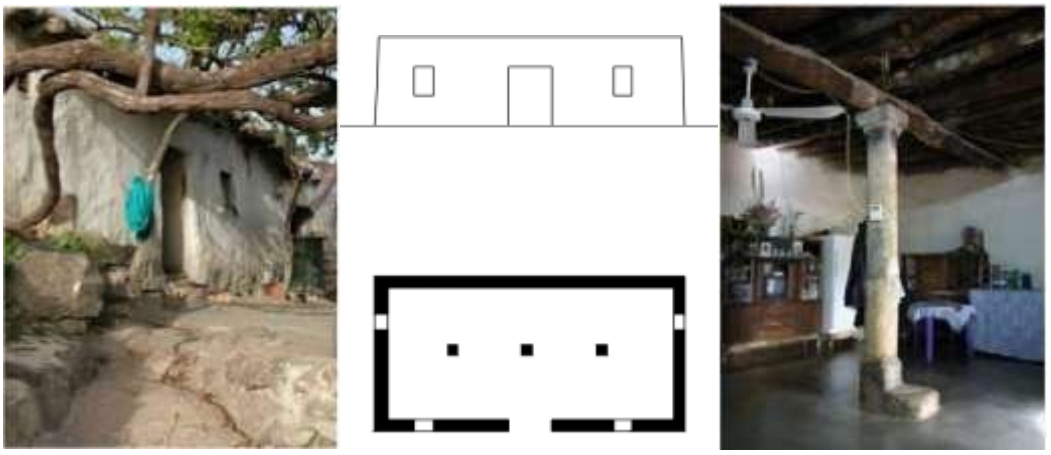

Figure 3. Basic rural Syrian house: exterior view (left), plan and elevation (center), and interior view (right). Source: CORPUS Project.

3.2. The house with a porch

Riwaq: This house is developed upon the basic house by adding an arcade gallery. Fig 4.

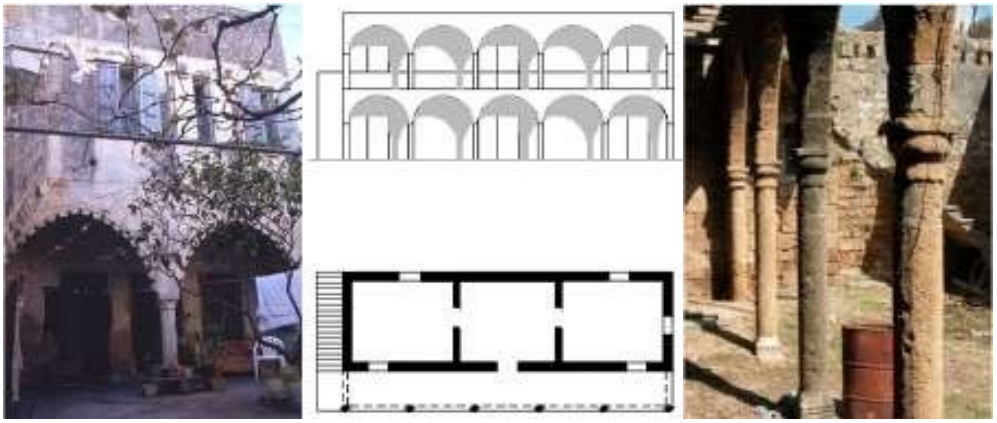

Figure 4. Rural house with Riwaq: exterior view (left), plan and elevation (center), and view from the Riwaq (right). Source: CORPUS Project.

3.3. House with an Iwan

The Iwan is a central space formed by a very large arch., Fig 5.

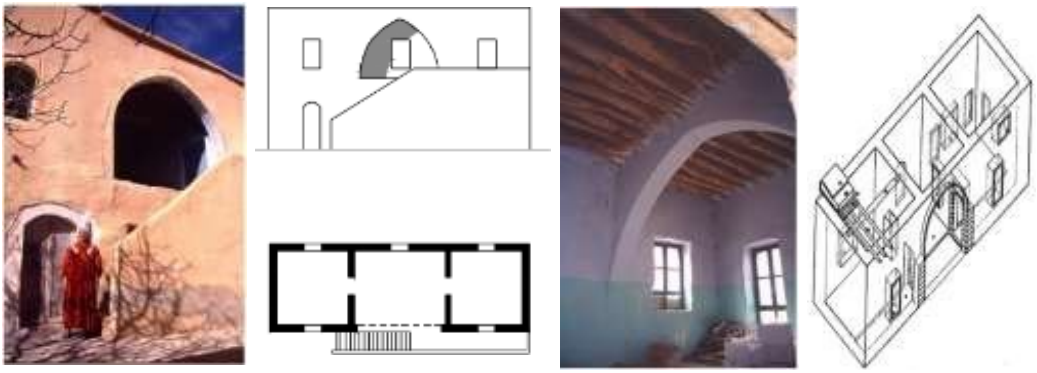

Figure 5. Rural house with Iwan: exterior view (left), plan, elevation and 3D section (center), and interior (right). Source: CORPUS Project.

3.4. House with a courtyard

This house is characterized by a layout of rooms built around a courtyard.

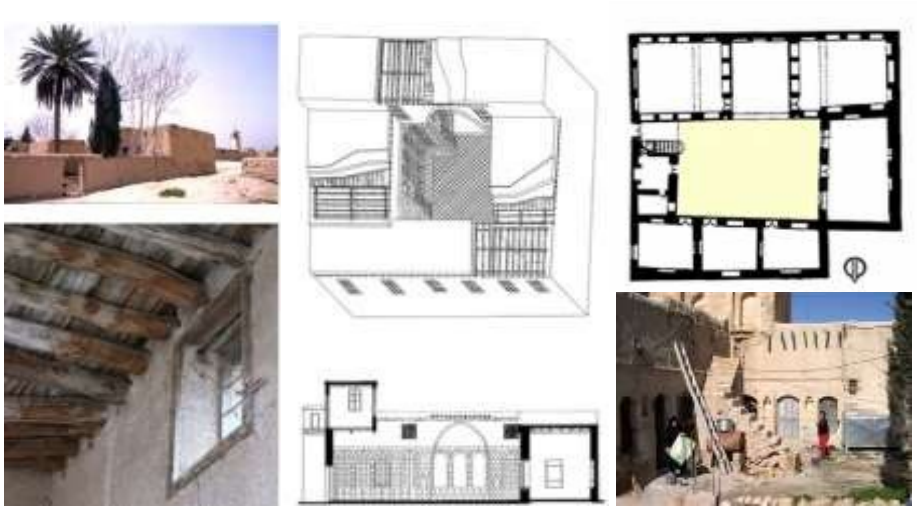

Figure 6. Rural house with courtyard: exterior view (top left), plan (bottom right), interior courtyard (bottom left), bird's eye view (top right), and cross-section (). Source: CORPUS Project.

4. Design concept for rural houses in northern Syria

An alternative design concept is being developed using the beehive house as a basis that is dependent mostly on the availability of local material that is adapted to the environment. The design incorporates the utmost respect of the modern users needs and the modules can be built with minimal construction knowledge. The building plan has a simple rectangular form of approximately 4 x 4 m. The wall structure will be supported by a wood construction in order to reinforce the building against earthquakes instead of only being composed of adobe bricks as is built in conventional housing. The main building material will be earth mixed with water and straw. The composition may differ using dung, sand, silt, clay, small pieces of gravel, or even recycled rubble from destroyed buildings. A recip- rocal structure will be employed for the roof, since it allows

larger spaces to be built with smaller dimensioned building elements. Therefore, there will be locally available and appropriate building materials reducing the need to import prefab- ricated elements and/or nonnative construction materials. The use of smaller tim- ber members will make transportation of the roof material easier.

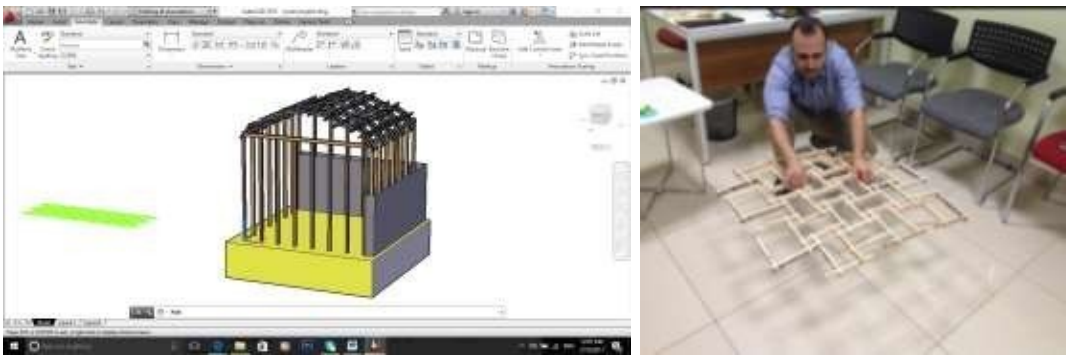

Figure 7. 3D concept model (left), scaled roof test model (right). Source: Author's own photos.

5. Conclusions and Future Work

Developing the beehive clay houses to use local and recycled materials from destroyed buildings is a solution to overcome the scarcity of building material and construction machinery. It also helps to solve the problem of clearing war-pro- duced waste materials in the long-term. Aleppo was destroyed 14 times across history by wars or earthquakes, rural areas were the traditional refuge for those escaping from the city. This will clearly be repeated in the current Syrian war opening the possibility for rural communities to participate in social reconstruction efforts.

The new single-family houses in Syrian villages will have the advantage of se- cured places with existing infrastructure systems and less war-damage. In a more integrated society with similar culture and traditions, an additional benefit of build- ing houses in villages is that the settlers can benefit from the land in terms of agriculture and livestock, reestablishing their economic and social self-suffi- ciency. The modular design of the new homes will allow the occupants to enlarge their spaces depending upon their needs.

An investigation for the best design, for not only the residential needs, but also further analyses will be conducted during a future phase of the project focusing on the structural and seismic performance, energy performance, annual energy demand and cost-effectiveness. The design will be refined according to test out- comes, establishing guidelines for best practice during resettlement and con- struction periods.

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Hemp for rural building construction

A tool for sustainable development in the Colombian post-conflict scenario

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Synopsis

In Colombia, rural communities often face transportation difficulties, unemployment and precarious housing situations aggravated by their isolated condition. This work aims to analyse how architecture can contribute in changing agricultural economy. The research focuses on the application of architecture as a strategy for sustainable rural development through the cultivation of hemp for the production of building components. In order to assess this possibility, a hemp-based prototype house was design for the providence of Toribío, one of the poorest areas in the country and also one of the most important marijuana's production centres in Colombia. This project could be replicable in other rural areas and could contribute to build sustainable multi-functional landscapes able to improve local economies and entrepreneurial capacities of their communitiest.

Key words: Hemp, building components, sustainability, rural development.

1. Colombia: Background

Despite having one of the richest bio-diversities on the planet, in Colombia poverty continues to be a big problem. In fact, 27,8% of Colombian population lives in poverty, and this rate increases to 40,3% in rural areas, making it one of the most unequal countries in the world[1].

In many ways, this problem is linked to the 50-year internal conflict between the Colombian State and the guerrilla groups, which is estimated to have displaced more than 5.7 million people from their homes and lands[2], affecting mostly the rural population. This situation has been aggravated in recent decades by the expansion of drug trafficking: opium, marijuana and cocaine.

2. Goal of the study

Considering that the final Peace Agreement between the Colombian government and the main guerrilla group (Revolutionary Armed Forces of Colombia -FARC) signed in 2016, has placed substitution of illegal crops as one of its main objectives to fight drug trafficking and to strengthen rural economy, the goal of this research was to investigate the possibility of replacing marijuana for hemp cultivations, in order to create a new production chain of hemp-based building elements. A prototype house using existing products was design in order to stablish the quantity of hemp required to build it.

3. Study area

The study area was located in a rural area of the Colombian Pacific region, in the province of Toribío at north of Cauca department (Fig. 1). This area was chosen not only because of the environmental features that make it particularly suitable for the cultivation of hemp, but also because is one of the most vulnerable areas in the country. Since adaptive capacity and resilience depend mostly on access to financial, material and social resources[3], the realization of this project could contribute to build a sustainable development model for its community.

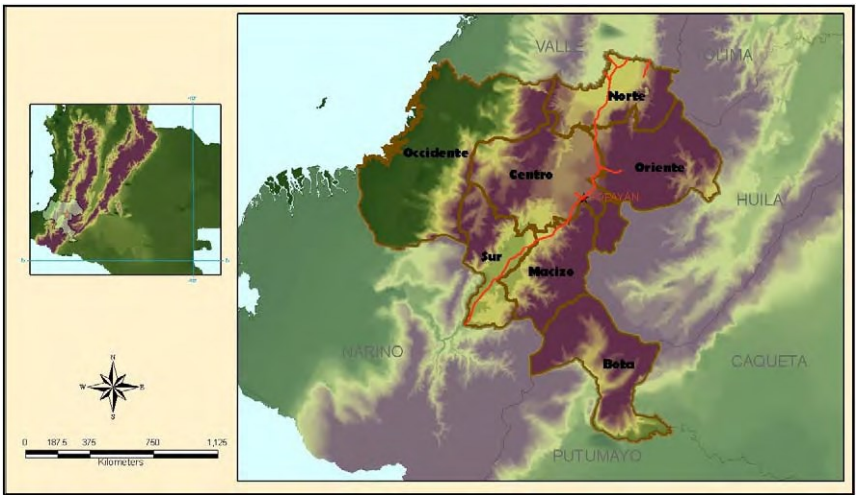

Figure 1.

[1] IFAD, 2016.
[2] Ibidem.
[3] NCCARF, 2015.

2. Methodology

For this study, the following analyses were carried out:

- identification of the main properties of hemp and the benefits it brings as a cultivation and as building material;

- identification of the different types of hemp-based construction products already on the market;

- checking the current availability of marijuana's cultivations in Toribío to verify the real possibility of replacing them and use locally grown hemp to manufacture building components for rural housing;

-characterization of rural residents and housing based on socio-cultural and environmental aspects.

These analyses were then used for the definition of a matrix, which correlated requirements and design strategies and was useful for the prototype house design.

3. Hemp as an alternative crop

Currently in Colombia there are no hemp cultivations. However, there are many areas where marijuana is cultivated illegally. For instance, according to unofficial data, in 2015 there were approximately 215 hectares of Cannabis plantations around Toribío[4].

However, with the law Nº1787of 2016, Colombia became the fourth Latin-American country to have a legislation for scientific use of Cannabis. Since then, some projects have been developed for the legal use of marijuana. Caucannabis and Walacannabis are two examples of cooperatives located in the area of Toribío that use marijuana seeds and fibres as raw materials for food, cosmetics and natural medicine products.

Considering that marijuana and hemp are Cannabis sativa subspecies[5], the proposal to use hemp in building construction could expand the current Colombian political framework, becoming an alternative solution for the post-conflict agreement's key points that promote substitution of illicit crops and implementation of comprehensive rural reforms[6].

4. The prototype house

For the design of the prototype house (Fig. 2), two basic criteria were taken into consideration:

– Relationship between housing and environment.

– Traditional architectural features of local rural housing.

[4] Noticias RCN, 2015.
[5] Johnson, 2015.
[6] OACP, 2016.

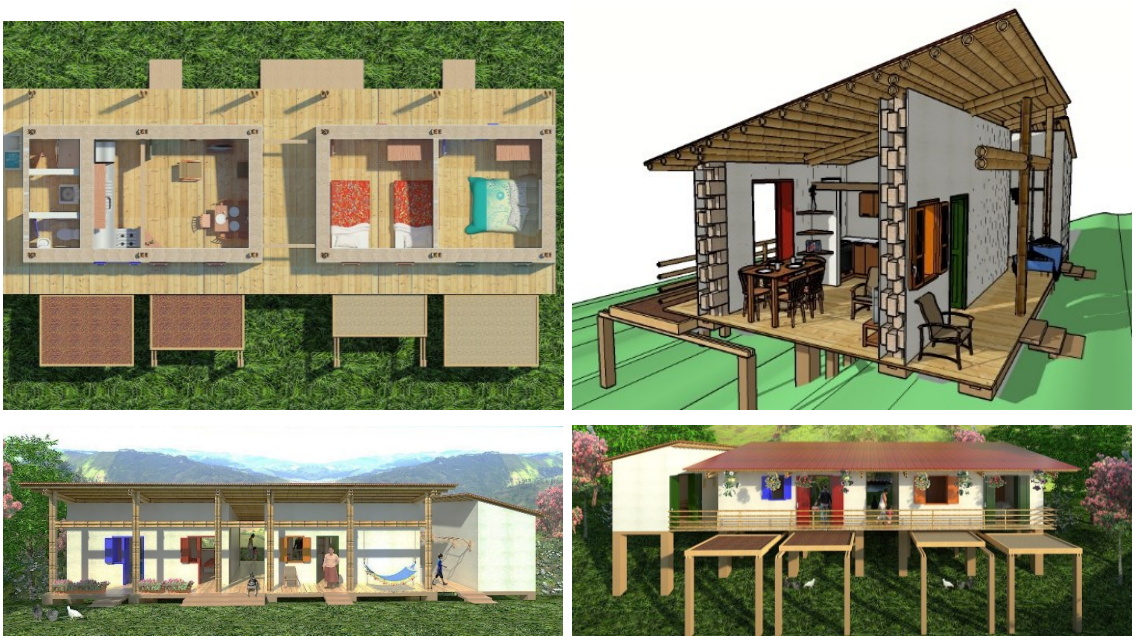

Figure 2.

The house used a construction system based on an existing product called Blick 38 (Fig. 3), a prefabricated hemp-lime block produced by Banca della Calce (Italy). The idea was that components such as this one could be produced in Colombia using local products and skills. Due to the easy-growing characteristic of hemp and the cold process used for the production of hemp-based blocks, this method could be an excellent solution for rural areas where economic and environmental costs of conventional construction solutions such as concrete or steel, often increase due to the difficulties of transportation and the need to employ skilled workers.

Figure 3.

This project could be included in the new provisions for the National Plan for Construction and Improvement of Rural Social Housing signed by the Ministry of Agriculture and Rural Development in 2017, that grants subsidies to rural vulnerable communities.

5. Results and conclusions

According to research data[7], the characteristics of the prototype house and the amount of hemp required to build it (Fig. 4), it was determined that with the amount of hemp grown in the study area, Toribío's community can build more than 70 houses annually.

Floor area	59m^2
Walls area	146m^2
Hemp shives total amount required	12860kg
1-hectare hemp = 4425kg hemp shives	
2,9hectares hemp = 1-prototype house	
215/2,9hectares = 74 houses	

Figure 4.

A new commodity chain based on hemp for rural building construction not only can improve the living conditions of the population (e.g. home comfort), but also can provide direct employment for many rural, unskilled people, (both in plantation and in processing facilities) contributing to build sustainable multi-functional landscapes and a new agricultural economy model (Fig. 5).

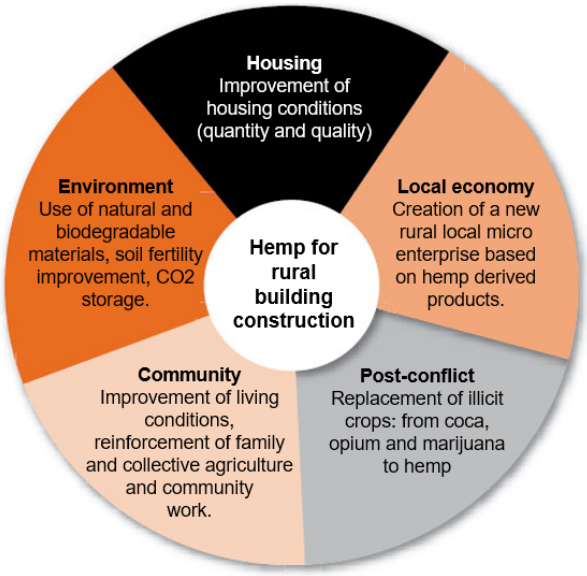

Figure 5.

Furthermore, although this study was based on a specific study area, the application of an alternative development project such as this one, in other rural regions can contribute to maintain successful results in the fight against illicit cultivations in the Colombian post-conflict scenario.

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Biography

Mónica Alexandra Muñoz Veloza. Colombian architect and researcher in Architectural Technology at the Department of Architecture and Design (Politecnico di Torino). In 2014, after having obtained the title of Architect at the *Universidad Nacional de Colombia* in Bogotá, she started her Master Degree in "Architecture for the Sustainable Design" at the Politecnico di Torino, graduating in 2017 with the thesis entitled "The use of hemp in building components for the development of a modular house in Colombia". She has worked in several architectural firms both in Italy and Colombia and has collaborated in historical research of the Colombian territory.
Currently, she conducts her research with the project "SUPER: Super Use of Products for Ecological Reclaims. Super use of agricultural, industrial and building wastes to designing and manufacturing materials and components". She's also part of an international team that will compete in the Solar Decathlon Latin America & Caribbean 2019.

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The designer, the musician

A similar way to approach creativity, a similar way to live their professions

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Synopsis

How many times, in their creative moments, architects are inspired by a particular music? How many times, in their creative moments, musicians are inspired by the place or the room where they are playing?
As musician and architect, I wonder if my mindset is different while practicing the one or the other profession. Unexpectedly, I found out many similarities between a musician and a designer, in the importance of personality, technique, listening skill, influences of environment and society, until the verification that both architecture and music are mainly imposed to other people, without choice.

Key words: Design, music, touch, space, similarity.

1. Design. A musical word

Elegant. Short. Insinuating. There is music in the word “Design”. When they pronounce it, they open the mouth as a singer does.

As an architect and musician I always wondered how to facilitate my professional life by practicing both Design and Music; I started to look for the mutual connections between these two disciplines, finally founding something very interesting.

2. Convergent thinking – Divergent thinking

A requested attitude of a Designer is the ability to control both the analytical/convergent (Guilford) and the creative/divergent stage of an innovative process (a new building project, i.e.). If we consider a musician, we can also agree that, while creating music, he/she uses and controls both convergent and divergent thinking, too (Fig.1). Music is art and mathematics. Architecture is art and mathematics, too. We need to analyze a problem if we want to fix it, but in our disciplinary field (design and music) a solution is never the only possible solution, but it depends on the author’s inner culture, experience, knowledge,…

Figure 1. The analytical and the creative mind – Elisa Riva.

3. That touch, that personalit

The touch of a famous designer or of a famous musician can't be taught. Beyond the technical competence, a Designer and a Musician express theirselves and their personality with intangible features: this is a form of art. This is the reason why a customer chooses that particular architect. For the same reason a spectator goes to that particular concert. Through his touch, the artist reveals something, he/she is able to change the space or the time perception to his interlocutor, simply by sketching a smoky dark interior of New York or by playing a delicate Eastern Europe ballad (Fig. 2).

The work of the designer and of the musician is carried out through the synthesys, not through the analysis, as other scientists do: culture, attitude, personality, experience are real ingredients of the creative's work (Munari) and they are responsible for the materialization of an architecture or of a song.

Figure 2. Bill Evans, 1969.

4. Beyond creativity, the technique

We could hardly imagine a good result if an architect is not able to correctly draw or if a musician is not able to play the song that he/she composed.

The study of each discipline and the technical skills are fundamental, even in creative disciplines. Creativity is: "the break and passing of a previous situation" (Cerroni) but in order to create, it is necessary to know and to perfectly control that discipline.

5. Social artists

Designers and musicians rarely work in solitude.

Even if the stereotype (Michelangelo, Caravaggio, Van Gogh,…) is the solitary artist, this his more possible for a figurative or narrative art.

On the contrary the architect must work in a social environment: he needs the comparison with customers, industry, municipality,… to carry out his work; the same happens for Euterpe (the muse of Music): to play an instrument means also to modulate the volume and respect the bpm of a song; in general playing and listening to music is a moment of social sharing.

6. We depend on the approval of other people

Without the approval of his/her customer, the architect is not able to carry on the project. The same happens to a musician: without the approval of his/her fans, the musician will not sell that song; if people don't like his music no one will participate to his concerts.

It is strange to consider that many times famous Designers and Musicians are protagonists in social life, parties or public events (Fig. 3), but concretely they depend on the same people who glorifies them.

Figure 3. Cini Boeri and Giò Ponti at a party.

7. Listen to, first of all

Engagement and interaction between people are based on the attitude to listen to our interlocutors (Brownell). This becomes a fundamental attitude in social arts as architecture and music. The success of a designer's work depends mainly on how much and how right he/she has listened to customers, to market, to social scenario, to competitors, to people's needs.The same happens to a musician: it is necessary to listen to the other instruments if he/she

wants to play accordingly to the orchestra. “To listen” happens before “to understand” and before “to create”. Good Designers and good musicians know it very well.

8. The stage is a construction yard

Either in the stage that in the construction yard many similar things happen. They are:

- the place where the work of the architect and the musician is finalized, after many months or years, without possibility to fail;
- the only possible test for the activity of an architect or a musician;
- both itinerant and always different: each stage, each performance is different as each construction yard is different, even if the same concert is played or an identic building is built.

By a semantic point of view, it is interesting that both places speak the language of the metal, with its light reflections, with its sounds: they are made of scaffolding, they need temporary devices (electrical and other machineries); they are also characterized by a rigid pyramidal organization which regulates different access zones (public, private, staff only,…), different authorizations, different materials: in the stage, as in the construction yard, each person (the designer, the musician, the workman, …) is an actor and he/she has a unique and clear role.

Figure 4. Structural worker - Lewis Hine.

The construction yard (Fig. 4) and the stage (Fig. 5) are also the two main places where the contemporary happens and reveals itself to the world.

Figure 5. “Mario Del Monaco” Theatre, Treviso, Italy – Lights over the scene, Riccardo Messere.

9. Space developers

Figure 6. Triennale Design Museum, Milan, Italy – Pasquale Formisano.

An impressive similitude between the work of an architect and the work of a musician is the construction of a kind of space, either physical or sounding one (Brown, Muhar). The technique used in interior design to give importance to a certain light accenture (Fig. 6) is similar to the technique used by a musician to enforce the presence of an instrument more than an other, in the mix: they are

defining the perception of a specific space (Fig. 7) in which the word “position” expresses also the meaning of “role”.

Figure 7. Concha Acústica, Cabo Rojo - Jerjes Medina Albino.

10. Without choices

We can’t avoid seeing the lighthouse (Fig. 8) that regularly lights up our summer nights. We can’t avoid hearing the bell (Fig. 9) that sounds over the city downtown. As architects or musicians, we force other people to perceive our work.

Architecture is an imposed art (Piano) because we can’t decide if to see the ugly building in front of our home or not; but also Music is an imposed art because we can’t decide if to hear that stupid music on the restaurant or not.

Figure 8. Johor Lighthouse, Singapore - Erwin Soo.

Figure 9. Campana dei Caduti, Rovereto, Italy.

Let's think of all the places that we encounter in our life: except from home, all the other places are full of objects that we don't choose to see, to touch, to hear, but we do it; we see and perceive, we hear clearly, loudly or quietly: all this external world is created, modeled and imposed mainly by designer or musician.

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Biography

Marco Mancini. Architect, Ph.D. in Architecture - Design. He was born in Italy in 1977. Graduated cum laude, he carries out teaching and academic research since 2005, at DesignCampus (University of Florence, School of Architecture, Degree and Master Degree in Industrial Design) in the topics: innovation theory, technological innovation, industrial design, planning; in 2016 he ran the course “Innovation in design” at the Nanjing University of Aeronautics and Astronautics (NUAA), Nanking, China. He partecipates in inter-departmental research projects which involve local and international enterprises; he worked as “Design and innovation expert consultant” for enterprises in regional projects and for industry association. He deals with outfittings and temporary installations for international exhibitions (Pitti Immagine, Florence). He designed integrated systems for the safety of artifacts in emergency conditions: on this matter he owns three patents (with other colleagues).

Construction Of Nonexistent, Unknown, Surprising, Creative Volumes Using Flat Patterns

Application of Accidental Cutting Methodology

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Synopsis

In certain occasions, creative processes of volume genesis arise, are fed exclusively by technical processes. The elevation of the technical process as something integral to the creative process and object of material and volumetric research, is something which was experienced by prestigious designers who were at the same time architects, or studied architecture: Paco Rabanne, Gianfranco Ferre, Tom Ford, Pierre Cardin, Gianni Versache, etc. In this sense, from interdisciplinarity there is the possibility of influencing a foreign field, modifying it. In this case the focus is on a very specific area, experimental pattern cutting, and a particular method - Accidental Cutting, intellectual property of the author of this article, an architect. The method is focused on obtaining original and unknown volumetries, nonexistent until now, from abstract patterns and without volumetric reading, which has applications in fashion, and another fields inclusive architectural design.

Key words: Serendipity, experimental pattern cutting, experimental design, pattern cutting, experimental pedagogy.

1. Technical processes / creative processes. Creative pattern cutting

In some cases, pattern cutting becomes the indissoluble phase of the creative design process and the pattern cutter and designer are necessarily the same person. In addition, the realization phase is fully integrated into the design phase. In these cases the design phase is not followed by the realization phase, and even in certain cases it does not exist.

1.1. Architects - fashion designers

Certain fashion designers such as Paco Rabanne, Pierre Cardin, Gianfranco Ferré, Gianni Versace, Pierre Balmain or Tom Ford, were, or are, architects or studied architecture. Possibly, the understanding of the union of art with technique, as well as the knowledge of space through geometry and technical drawing, helped them to consecrate themselves as they were, prestigious fashion designers and architects at the same time (Seeling 2000). The interdisciplinarity originated by the training in another field opens up new possibilities and allows to articulate a language of its own, since a new and fresh vision is possible on certain aspects, importing solutions of other architectural matters in this case to the field of fashion design (Iszoro 2016b).

2. Experimental pattern cutting

The experimental pattern cutting, at present, is nourished by some processes more in agreement with the architecture than with the fashion design, being essential the understanding of volumetric relationships through three-dimensional constructions and not in plane. This is a common denominator of the experimental pattern methods such as: Kinetic Garment Construction, Subtraction Cutting, Accidental Cutting etc. These methods apart from resorting to three-dimensionality at some stage of the process assume certain creative risks such as:

2.1. Uncertain results, serendipity and uncertainty

2.2. Graphics, tables and images

In the experimental methods of creative pattern cutting, experimentation can be understood in different ways, in some, concrete result is pursued, while in others it can be unknown and surprising

Serendipities, understood as lucky discoveries or finds, valuable and unexpected, can occur accidentally or causally, when we face the unknown, and some methods allow it, contrary to the opinion of Federico Soriano, that a method is a project (Soriano 2013). Some methods allow you to discover what is non-existent.

In this vision of pattern cutting, it is about generating new possibilities, experimenting, creating new interesting things that can unexpectedly surprise "(Roberts 2013, 31-32). As a symbolic image of what Roberts expresses in these phrases, there are two clips of the video Cutting Backdrop in which a collaborative experience of The Cutting Circle was recorded, shared by the designers Timo Rissanen, Julian Roberts and Holly McQuillan (fig.1).

It is about obtaining a pattern by drawing the outline of a person. In this case the one that draws is Roberts and the one that serves as "outline" of obtaining the pattern is Rissanen. These images are significant because they symbolize that in the pattern cutting design anything goes, any shape is likely to become a pattern and also reinforces the idea that the pattern should be more human, for man and not a mathematical science. Both patterns, the cut and cut out, can reach volumes but we do not know in what way or what volumes they can generate. It is unknown if they are going to unite with each other or with other different patterns, nor are union marks perceived, so in the beginning everything is unknown. The apparent formal relationship with the human figure is at the same time symbolic as totally uncertain and random. These two patterns can result in a volumetric design not previously imagined by the mind. Processes of this type can lead to new solutions, since design based only on our imagination can inevitably tend to copy, even if unconsciously (Rissanen 2013).

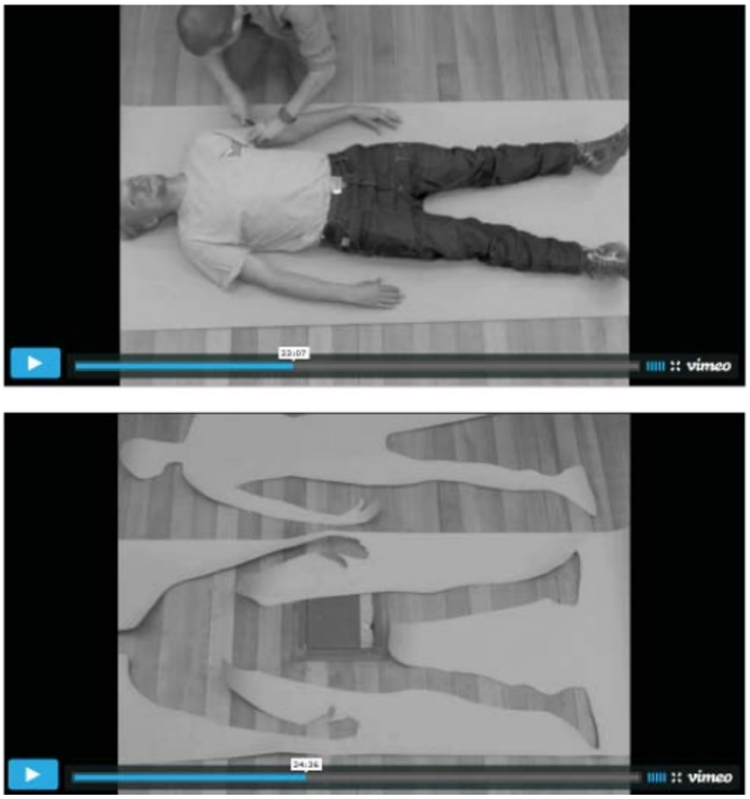

Figure 1. Julian Roberts draws the silhouette of Timo Rissanen, Cutting Backdrop - video (Roberts, 2014).

3. Accidental Cutting

In this line, the Accidental Cutting experimental pattern cutting and design method is developed.

The method enables to generation of unknown formal results: is focused in finding, and not looking for, the non-existent. Accidental Cutting refers to constructive and projectual method of obtaining complex volumetrics as well as pedagogical and research methodology.

Below there are exposed some aspects of the methods that enable the genesis of uncertain results:

3.1. Absence of volumetric reading, abstraction

The key to the method is to treat all patterns in an abstract way, whether they have a clear volumetric reading or not. In fig. 2 are presented three patterns, a sleeve, a cube and an abstract pattern. The volumetric reading of the first two is clear, however the third pattern is not known to what corresponds, what volume can constitute joining with itself or with other patterns. It is also not known if it can be related to the human body or any other object. This pattern therefore has no clear volumetric reading. In the Accidental Cutting method, it is essential to understand not only this but all the patterns in this way, including the first two, the sleeve and the cube.

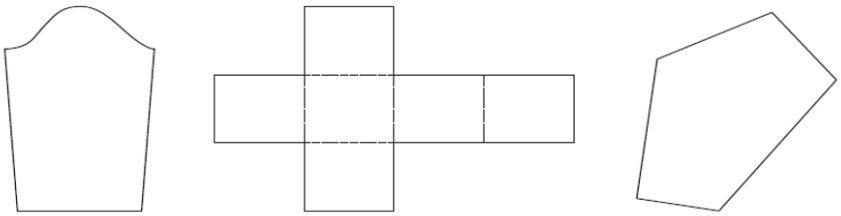

Figure 2. Patterns with and without volumetric reading.

3.2. Geometric versatility of the flat pattern in relation to the volume

Any pattern is basically composed of two elements:

A-Concrete surface

B- Volume construction marks

When any of these two elements is altered a new pattern arises, that is, two patterns with exactly the same surface and different construction marks, constitute distinct patterns, since they are likely to give rise to distinctive volumes.

Figure 3. Versatility of the flat pattern in terms of volume conformation. Pattern in the form of "x", models obtained with it, and an application in clothing.

3.3. Relations of the patterns with each other and with the format space

The Accidental Cutting methodology involves the knowledge and exploration of some specific concepts of the method, which make it possible to obtain a greater quantity of differentiated volumetries applicable to fashion or design.

Figure 4. Prototype and the corresponding pattern, applying the Accidental Cutting methodology. Eufemio Fernández López, Third year ESDM 2014-15.

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Biography

Eva Iszoro. designer and architect graduated at ETSAM- Escuela Técnica Superior de Arquitectura de Madrid, Architecture School in Madrid. Her studio is specialized in architecture and design and combines different projects understanding the project in a global way, experimental and without limits.

She develops her own fashion brand and researches in the field of pattern cutting and holds the first PhD thesis in creative pattern cutting and it´s pedagogy in Spain presented at ETSAM Architecture School/ Polytechnic University in Madrid. She also is the author of a new experimental pattern cutting method: ACCIDENTAL CUTTING.

She teaches fashion design at URJC- Universidad Rey Juan Carlos, and ESDM- Escuela Superior de Diseño, in Madrid. Head of the International Relations for Fashion Design and Management at URJC.

Dialogical arts practice in place-making

Re:connections: a case study of Lee Bank, Birmingham

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Synopsis

Dialogical aesthetics is a term used by art historian and critic Grant Kes- ter (2004) to describe a form of arts practice defined by the artist's ability to lis- ten and catalyse understanding. My research explores how this arts practice can be applied to the understanding of people's emotional connections to their lived place, addressing the need to consider complex nuances of people's place attachment within existing built environment assessment processes.
This paper focuses on Re:connections, a creative place-making project that took place in summer 2017 where artists, through a dialogical approach, engaged residents in Lee Bank, Birmingham, an area that has been undergoing regeneration since 2000 and previously regarded as an area of poor quality housing and social deprivation. Re:connections provides an insight into the im- pact physical change has had on residents place attachment, and new knowledge regarding the value of dialogical arts practice as a tool for design professionals.

Key words: Dialogical aesthetics, phenomenology, place-making, housing, emotional attachments.

My case-study, Re:connections, explores how dialogical arts practice can be applied to understand more about people's emotional connections with a view to contributing to new place assessment approaches that reflect the complexity and nuances of people's in-depth relationship with their everyday places.

The area of study is Lee Bank, an inner city residential area and previously one of five council housing estates that formed Birmingham City Council Central Area Estates (CAE) before undergoing regeneration in 2000. Known prior to the regeneration for poor quality housing and social deprivation, it covers 38 hectares and is bordered by two major eight lane roads. The £550 million regeneration has been recognised by the Homes and Communities Agency as a flagship case study for mixed tenure, sustainable regeneration. The regeneration included the demolition of four tower blocks, refurbishment of seven towers, the building of new private and social housing, office blocks, a new school and the design and development of two parks. I chose this area as a case study as I had witnessed the regeneration and was curious how an area, considered by a government funded agency as successful regeneration, was perceived in the everyday experiences of the people who lived there. No relevant data existed prior to my research.

Re:connections involved artists in sound, poetry, visual arts and photography and they engaged with approximately 160 residents in parks, street corners and community hubs, exploring the impact the transformational physical change has had on their emotional perceptions. The artists prompted conversations through their art-forms, including a sensory practice within a dialogical approach. The artists are critical regarded in contemporary arts practice, validated by Arts Council England funding for the project. Re:connections culminated in sharing of art works in the local park where residents shared a picnic.

Figure 1. Branching Morphogenesis. Ars Electronica Center, Digital Art Museum at Linz.

The motivation for my research emerged from my own arts practice, principally from a Creative Health CIC project I directed called Bostin Chats in Sandwell, where artists facilitated participant's explorations into the places and resources they valued about where they lived. The depth and quality of responses from participants was notable and contrasted to the other forms of consultation Public Health Sandwell commissioned. The project reflected findings of an AHRC Cultural Value Project which identified a body of evidence to suggest that engaging in arts and culture builds qualities of empathy and reflective individuals (Crossick & Kaszynska, 2016. Sensory perceptions of lived spaces are commented on by Tuan (2002) who states that children perceive their spaces in a sensory way, unlike adults, and therefore have a different attachment to where they live. I was keen to explore how engaging in dialogical and sensory arts practice impacted on residents awareness and perceptions of the area.

There are a number of major studies published considering the development of new of sustainable and resilient places. These include the government commissioned Farrell Review (2015) and 'Building the 21st Century City: The Sustainable Urban Neighbourhood (Urbed 1999). None have included insight into place attachment, yet, in the fields of human geography and philosophy, place attachment and sense of belonging is recognised as being of paramount importance to wellbeing and the feeling of safety and security. Human geographer Edward Relph argues that design professionals need to understand the complexities of people's perceptions of their everyday places before they create new places (Relph, 1976).

The study has followed an action research approach using dialogical arts practice through a site-based case study. Grant Kester (2005) describes this approach as 'dialogue-based' and 'socially-engaged' art. Through this approach, artists have created a structured form of creative dialogue. The participatory sessions follow a sensory ethnographic approach, where artists collaborate rather than act as observers in other people's life contexts. (Hammersley and Atkinson, 2007). Where informed consent has been given, residents encounters with the artists practice is documented through sound and video recording. The artist role as 'outsider' has been analysed through semi-structured interview before, during and after the project and through observation during arts engagement sessions. The action research has been supported by a text and visual analysis to analyse external perceptions of the area before and after regeneration and to explore how the area is portrayed as part of local government design strategies and housing developer marketing.

Through analysis of the data, findings have emerged which give insight into the value of dialogical arts practice as a contribution to place assessment: Dialogical arts practice provides a more in-depth understanding about people's emotional connections to Lee Bank. The collection of data including art works, interviews and observations reveal a complexity of perceptions which are collectively unresolved and in flux. Due to the sample size it is only possible to view the research as a collection of individual responses, however, it was notable that some of the established residents who previously lived in Lee Bank prior to regeneration felt angry, alienated and dislocated with a reduced perception of safety prior to regeneration. Many of the residents who moved into the area after it

was regenerated talked of positive place attachments.

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Biography

Jenny Peevers. An arts practitioner and researcher. Her practice explores the interaction between art, people and place with a specific interest in exploring how arts practice can reflect and respond to the depth and complexity of people's associations with their lived places. Rooted in site specific and socially engaged arts practice, she integrates the disciplines of urban design and human geography.
Jenny has trained in fine art, photography and urban design and previous employment includes the post of Public Art Officer at Arts Council England and Urban Designer at Bryant Priest Newman Architects. She is an executive director or Creative Health (arts and health) CIC, an RSA fellow and member of the national Art and Place working group.

Architecture, an inspiration for the revolutionary fashion design of the 20 th century

The first decades of the 20 th Century - Exercise of creativity for architecture students

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Synopsis

The 20 th century remains the most fascinating example for the way Architecture and art transformed, in a revolutionary way, our world, in particular, fashion and life style. The first decades of the century were the most important both in architecture and fashion design, from geometrical Art Nouveau to Modernism and International Style. They have changed the face of the cities, the way of living and the ideal of the human beauty, connecting architects, painters, musicians, philosophers, writers and fashion designers. Adolf Loos, was saying in the '20, that „ the costume is nothing else but a primary form of shelter", and through the following decades architects and respected designers have created remarkable fashion works. At the course History of the costume, I have proposed to the students, exercises of creativity, which reveal the approach between architecture and the human body, a subtle message of volumes, forms, textures and colors.

Key words: 20 th Century, Architecture, fashion design, connections.

1. Introduction

Umberto Eco, one of the most important specialists in semiotic , defines architecture as „any form of design that creates three-dimentional constructions concived in such way as to meet function related to life in society"; the same *modern guru says*: „clothes are artificial semiotic facts, in other words, instuments of comunication" The indisoluble conection beetween the interior design and fashion design was noticed from the early times, but only in the XX th century, architects,designers and artists marked the special change of ideeas beetween fashion and architecture, drawing in stong lines the portret of an epoque and its spirit.

2. La Belle Époque and the Modernism

At the end of the 19-th century, the Engineer's Architecture and the Industrial Design represent the essence of the shocking invention of this époque :electricity, telephone, and the new structure of metal and concrete. But, the Art Nouveau Style triumphs and together with it a new ideal of feminine beauty. The heavy structures of the clothes are replaced by a new elegant line; the clepsydra silhouettes do fit in the new decors with vegetal motives which are curling on stairs, piles, windows and doors, furniture and lams, the colors are sweet and the textures of silk and velvet, soft. Looks and the attitudes are changing with a high speed, as well as the new styles and currents. The first image „spatial-dynamic" of the modern art, was born in architecture, before the cubism in paintings: the famous hall of Hill House, designed in 1902 by Ch. R. Mackintosh.Trying to find a way between the male ideal of beauty- the prototype of the bourgeoisie, gray, respectable and prosaically, and the female ideal of beauty – the fatal beauty, inaccessible, mysterious. In the same year, Gabrielle Coco Chanel started her big adventure in the world of fashion. In Paris, The „King of Fashion „,Paul Poiret, in the elaboration of the catalogue „Les choses de Paul Poiret". The Poiret House started to create and to market furniture, objects of sets (decor) and perfumes, promoting the concept of „total life style", that united fashion and interior design.

Figure 1. Paul Poiret - Interio & Fashion design.
(O'HARA , 2000, Interieurs Art Deco, Paris, Editions Thames & Hudson SARL , [1990, Art Deco Interiors, , London, Ed. Thammes &Hudson,], pg. 65)

In 1911, all the arts can be found in one palace : Palace Stoclet, in Bruxelles.[1]

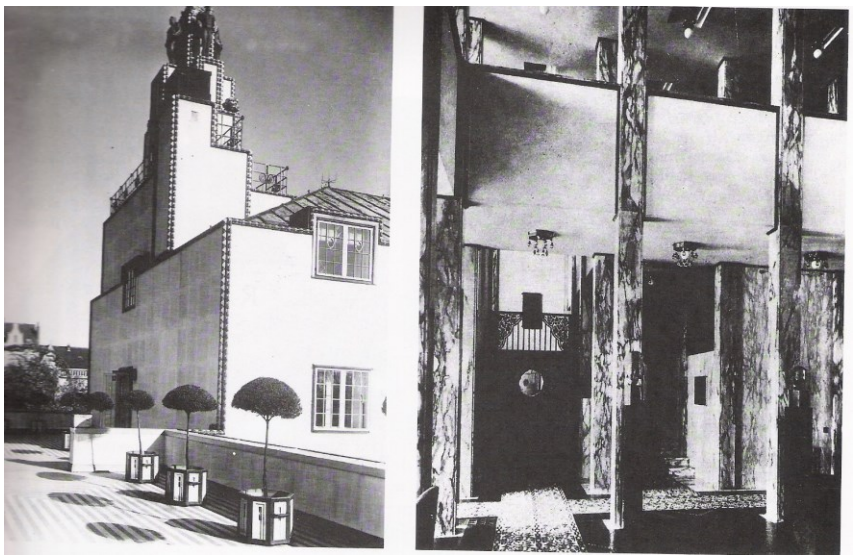

Figure 2. Stoclet Palace , Bruxelles.
(FERRIER, Jean-Louis, 1999,L'aventure de l'art au XXe siecle, Paris,Edition du Chene-Hachette Livre,pg.127

Inspired by this extraordinary work of art, Chanel launches simple and casual clothes designated for a new idea of beauty: the powerful woman active and independent. The colors were sober, much black color was worn. „1914 changed everything: the old world was destroyed , condensed, buried" declared Le Corbusier. Between 1914 and 1918, women faced an un-previous transformation and not only because they were obliged to do men's work who were gone on the front. Chanel launches simple and casual clothes designated for a new ideal of beauty: the powerful woman active and independent. The colors were sober, much black color was worn for the mourning.[2]

Mondrian's neo-plasticist paintings and the fabulous projects of "The City of the Future" signed by Antonio Sant'Ella are sources of inspiration for Chanel and for the vanguard couturiers.

For the workshop "Inspiration Modernism", the students from the course History of the costume choosed for their creations unconventional materials as paper, plastic and metal and designed volumes and shapes in non colours. The challenge contained in understanding the spirit of the new era, at the beginning of the twenty-th century, the dramatic transformations not only in fashion or interior design, but the human ideals in social life and politics.

[1] FERRIER, Jean-Louis, 1999,L'aventure de l'art au XXe siecle, Paris,Edition du Chene-Hachette Livre, ISBN : 2.84 277.181.8, pg.127
[2] BAYER, Patricia, 1993, The Encyclopedia of Fashion, Thames & Hudson, London, pg.69

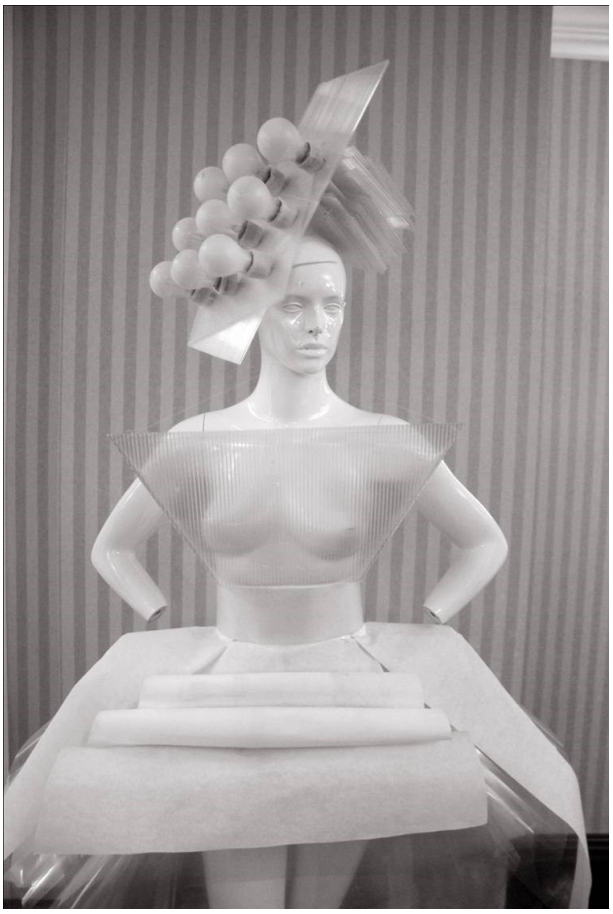

Figure 3. Workshop : Costume design, inspiration: structures and new technology of the '20.

Figure 4. Workshop – Inspiration Modernism ; volumes and graphic shapes in white and black.

3. From Bauhaus to Surrealism, the birth of L'avant-garde

In 1919 history is written in Weimar and the Bauhaus School wants to invent the future. And it succeeds! Walter Gropius and the extraordinary Bauhaus team of architects and artists, have created the base of geometrical pure volumes and forms and, also, a philosophy based on "less is more".[3]

[3] O'HARA , 2000, Interieurs Art Deco, Paris, Editions Thames & Hudson SARL , [1990, Art Deco Interiors, , London,

Figure 5. Bauhaus - Interior Design Felix del Marle – inspiration Mondrian.
O'HARA , 2000, Interieurs Art Deco, Paris, Editions Thames & Hudson SARL , [1990, Art Deco Interiors, , London, Ed. Thammes &Hudson,] , pg.22

Bauhaus reloaded represented one of the most important themes for a workshop, exhibition, and even a fashion parade. The famous school changed the world for ever and students were very involved to discover the exceptional transformations in architecture, art and design, in fact, a new world, after the First World War.

They have experienced the new compositions, in a Mondrian style, the

colours described by Johannes Itten, the geometric volumes signed by the greatest architects of the '20s and '30s (fig.6 & 6 *).

Figure 6. Workshop : Bauhaus Reloaded – the influence of Itten and Mondrian, with a punk touch.

Ed. Thammes &Hudson,] pg.22

Auguste Peret, Frank Lloyd Wright and Le Corbusier are the new “Gods” of Architecture, who will influence the most important fashion designers. Adolf Loos himself, was saying in the ’20, that „ the costume is nothing else but a primary form of shelter”, and in the following decades, architects and respected designers have created fashion works. The male-female beauty ideal is represented by the straight silhouette lacking ornaments with an austere line – the unisex fashion is born! Women adopt a boyish hair cut, they appear with flat breast and hips so that their silhouette are alike the new modern buildings. The emphasized vertical line similar to that of the sky scrapers has in counterpoint the horizontal line of the cigarette which is a necessary element for the emancipated women never giving up the cigarette even in the street. The influence of the Extreme Orient is important for the art deco style that gets a shape. Eileen Gray proposed interiors of an extraordinary modernity combining geometries and the exotic elements with non colors, and Chanel proposed a fashion design item that will rapidly impose and will resist more than a century – „the little black dress”. Sonia Delaunay designs graphic dresses inspired by the Russian Ballet (Fig 9).

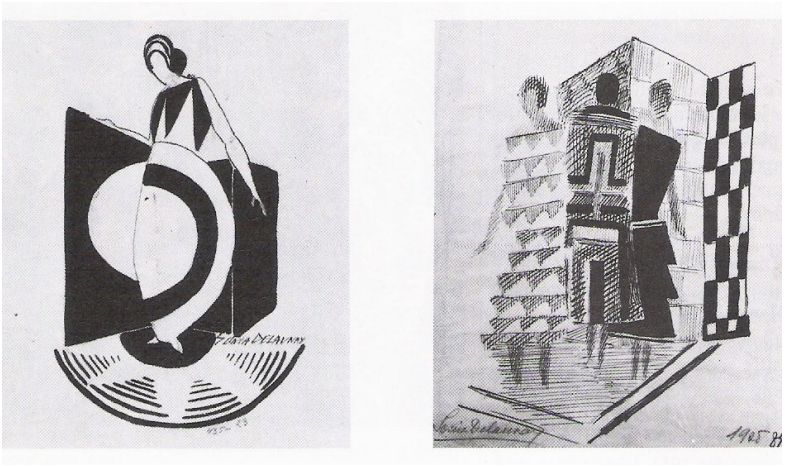

Figure 7. Sonia Delaunay – fashion design.

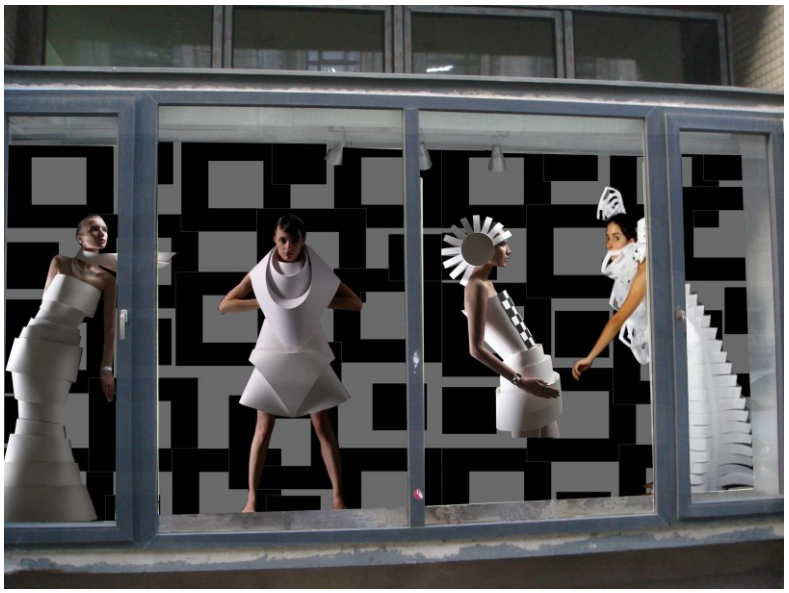

Figure 8. Modernism and Surrealism - Volumes and shapes – workshop and window design at the University of Architecture and Urbanism Ion Mincu, Bucharest.

Figure 9. Workshop : Modern Ballerina - inspiration Modernism & Surrealism. Faculty of Interior Architecture.

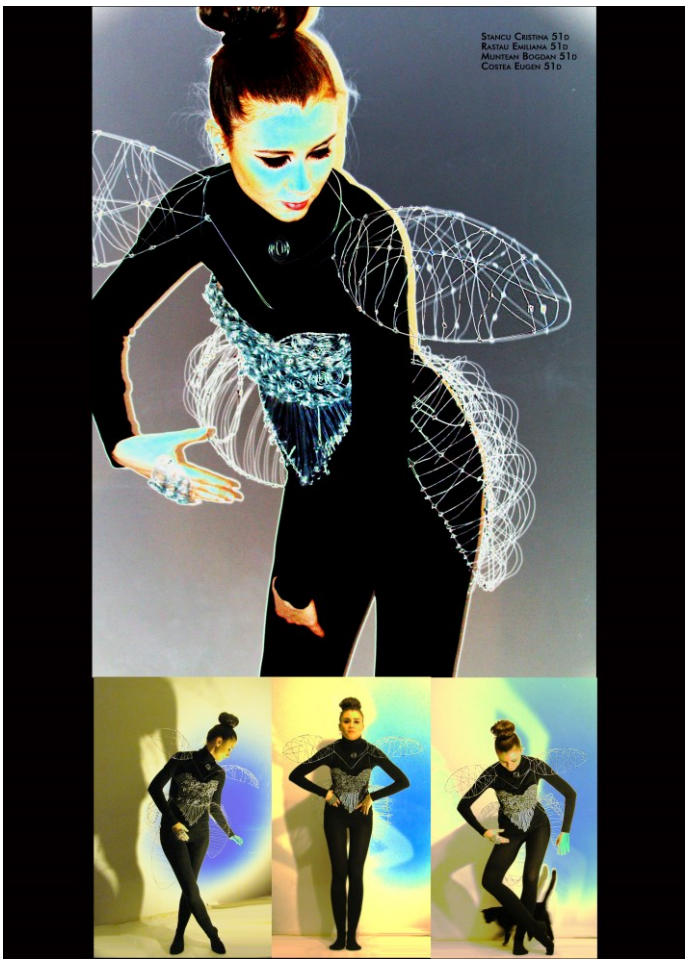

Figure 10. Workshop : Jewel Costume –surrealism & metal structures.

In 1924 the surrealism begins with the “manifest” of Andre Breton. Magritte and Chirico were drawing landscapes with impossible, fantastic architecture which have inspired generations of fashion designers, up to Alexander McQueen, Yamamoto and Jean Paul Gautier. From far the most visible artist for this style, Salvador Dali doesn’t resume his work only at painting, but, designs interiors, furniture, clothes, jewels. He collaborated with Elsa Schiaparelli, a visionary artist, adored by Miro and Jean Cocteau. The lobster dress, the tears dress and the extravagant accessories, remain famous in the History of Costume. In a world of contrasts, between Great Gatsby and the extreme poverty, they offered the alternative of a dream where everything was possible and accepted.

This was the theme of workshop which proposed a journey in the ‘30s.The stu-dents analized this decade, starting with literature, music, visual arts, social and economic life. The world of dreams, Hollywood movie stars, famous ballet shows were the sources of inspirationl. Their creations had contemporary replics, especially for the scene costumes, the extravagance of Madonna or Lady Gaga, the art of Morski or Setowski. (Fig.10 and Fig.11).

Figure 11. Workshop Surrealism reloaded. Faculty of Interior Architecture.

4. Conclusions

The first decades of the 20-th century were also an important source of inspiration for the projects and the workshops of my students, at the Course History of the Costume. In their creations, Modernism has melt into the styles of the last 50 years of the last century: popart, Punk, brutalism, post modernism,

DE constructivism, revealing the approach between architecture and the human body, a subtle message of volumes, forms, textures and colors. So, they have created costumes and artistic installations „moving structures" from conventional and unconventional materials, in a personal interpretation.

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O'HARA , 2000, Interieurs Art Deco, Paris, Editions Thames & Hudson SARL , [1990, Art Deco Interiors, , London, Ed. Thammes &Hudson,] ISBN : 2-87811-178-8.

Biography

Stefania Victoria Ruse. Born in Bucharest, Stefania Victoria Ruse gets remarked since childhood for her skills in painting, poetry, ballet and film; so, her passion for visual and non visual arts will lead her to architecture.
After graduating the High School of Architecture and then the University of Architecture and Urbanism Ion Mincu, Bucharest, SVR takes part at many contests and exhibitions of graphic and object design, initiating the first design exibitions and fashion parades for students in Romania.
Together with a group of young architects, initiates shows in which they combine music, artistic installation, object, fashion design and ballet .
She signs projects in architecture, interior design, set decoration for film and and theatre in paralel with the academic career, publishing articles, books, organizing workshops and participating at national and international conferences .
The University remaines my beloved home; so, as through the last decades, I have created architectural objects, pictorially interiors,scenography, fashion, textile, graphic or object design, I kept one dream alive : my work with the students."
Last book : Figure and fond, the identity of the objects and the interior space. Ed. Paideia, 2013, Bucharest.

Beauty Emerges to Reoccupy its Rightful Status, in Post-digital Architecture

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Synopsis

The enigma of beauty is culturally fascinating, and even more so when a new knowledge about it is emanating from the fields of neurobiology, and mathematics.
In post-digital architecture, beauty is not a singular idea; beauty is many, and the architects' task is to employ human decisions, including intuitive ones, so as to augment digital gains. It is timely to shed cultural taboos that the word beauty associates with, and act upon its pursuit architecturally.

Key words: Beauty, Visual-thinking, Intuition, Intellectualization, Mathematics, Neuroscience.

Aesthetic consideration and active visual thinking, since the late 1940s, were suppressed and ceased to exist as leading generators in the architectural design process. It started when function took over as the form generator, augmented by the critique on the 'hegemony of the eye'[1], and the long-term intellectualization[2] of the design process, endorsing what was understood as rational and objective. Suspecting intuition and lateral thinking - as both didn't count for too long as the needed rigorous thought process for servicing society - led to focusing on the derivatives of rational process, and not necessarily on what people like - is rather tragic, as we ended with an environment that is often alienating, holding back the joy that pleasurable architecture brings, including the experience of beauty.

A prevalent view amongst the architects who fought 'the eye regime', could be traced, for example, through the influential book written by Juhani Pallasmaa, which highlighted the critique on Western ocular-centric tradition, while blaming modernism and even more the era between 1960s to1990s for extending the "hegemony of vision" to a fault. His book - The Eyes of the Skin, Architecture and the Senses, Academy Editions, was published first time in 1995, sold out, and re-published in 2005 - was written poetically, focusing on the denigration of a design process driven by visual thinking. The poignant subtitles that reflect on that attitude: 'Crisis of Ocularcentrism', The Narcissitic and Nihilistic Eye, 'Retinal Architecture and the loss of plasticity'.

The paradox is that the first common measure amongst architects to judge a building, is still its capacity to create a great aesthetic experience; the experience of beauty

We cannot define beauty in simple terms, yet, neuroscientists proved, that our civilization couldn't exist without the recurrence of experiencing pleasures - while the experience of beauty is one of them - a characteristic that reflects on our neurobiological structure. The experience of beauty rewards people neurobiologically with an immediate reaction of an aesthetic pleasure, which leads to actual physical health and a feeling of wellbeing. Semir Zeki, the UCL Prof. of Neuroscience and neauroaesthetics[3], found that when we look at things we consider to be beautiful, there is an increased activity in the pleasure reward centers of the brain. There is a great deal of dopamine in this area, also known as the 'feel-good' transmitter. "The reaction is immediate."[4] We know immediately when we experience beauty and the intensity of that emotional experience can be quantified digitally.

Until the late 1970s, neuroscientists erroneously understood the humans' seeing mechanism, as a passive one. Nevertheless, even when the opposite was proved more than thirty years ago[5], its dissemination into culture, as we can witness, is still hardly there, due to the culturally loaded negative attitude towards the 'eye regime', which is still shared by many architects. The scientific facts about

[1] Martin Jay, The Denigration of Vision in 20th C. French Thought, University of California Press, 1994.
[2] Marvin Perry, An Intellectual History of Modern Europe,Houghton Miffin Company, 1992.
[3] Prof. Zeki is a British neurobiologist at University College London, a world expert of the visual brain and the neural correlates of affective states, desire and beauty that are generated by sensory inputs. Active in the fields of Neurobiology and Neuroesthetics.
[4] Semir Zeki, https://neuroaesthetics.net/2011/08/21/toward-a-brain-based-theory-of-beauty-ishizu-zeki-2011/
[5] Semir Zeki, Splendors and Miseries of the Brain, Love, Creativity, and the quest for Human Happiness. Wiley-Blackwell, 2009.

the seeing mechanism and its role are still completely missed.

Moreover, seeing is the key active element in gathering knowledge, claims Zeki, and visual thinking is crucial in creative thinking. Architecture wouldn't develop well through history, if visual thinking was 'retinal' only and not processed in the brain.

Dissemination is slow when scientific findings are in contradiction to prevalent cultural beliefs, even when the findings are studied and quoted, as could be observed, for example, when Harry Francis Mallgrave, architectural historian, sift new knowledge through his set of beliefs, in his books since 2011, where he communicates through quoting and explaining new scientific advances in neuroscience, but his conclusions, take the reader back to his cultural standing from before[6], (and in agreement with Pallasmaa's view).

Moreover, between 2011 and 2014 it was Zeki who proved that when we experience different types of beauty – visual, musical, mathematical and moral – each aesthetic pleasure lead immediately to an increased activity in the pleasure reward centers of the emotional brain, and the intensity of that experience of beauty can be quantified digitally[7], (an important measure in science).

These findings made me interested in the subject of mathematical beauty, and I found out that in mathematical studies of the universe - the aesthetic pleasure of mathematical beauty is particularly of interest, since unlike architects, or amongst other fields in the Humanities, mathematicians never lost interest in beauty, particularly mathematical physicists, as Robbert Dijkgraaf[8] confirms, that beauty plays an important role, and he adds[9] that these days are the golden days of the trust in beauty as a pointer of truth about the universe. The classic example is Einstein's Theory of Relativity, which when submitted in 1915, it was described by every mathematician as sheer beauty. "A hundred years on, no discussion of the role of aesthetics in scientific theory seems complete without its inclusion."[10]

As the English mathematician G. H. Hardy wrote:[11] "…The beauty of a mathematical theorem depends a great deal on its seriousness, even in poetry the beauty of a line may depend to some extent on the significance of the ideas which it contains…"[12]

Mathematicians are confident in listing the characteristics of beauty; a quality that is unexpected, fresh, significant, and economical. When we design, we are familiar with the moment, like mathematicians, when all fall into place. We are pleased, as that moment is when the beauty was noted. As the Mathematician Ron Aharoni wrote: "The sensation of beauty, arises when order is suddenly revealed in

[6] Harry F. Mallgrave, The Architect's Brain; Neuroscience, Creativity, and Architecture, Wiley-Blackwell, 2011.

[7] Toward A Brain-Based Theory of Beauty, Tomohiro Ishizu, Semir Zeki see http://dx.doi.org/10.1371/journal.pone.0021852, and added by Prof. Semir Zeki in a recorded conversation with Yael Reisner, in 2015. Experience of mathematical beauty and its neural correlates, Front. Hum. Neuroscience, 13 February 2014, http://dx.doi.org/10.3389/fnhum.2014.00068

[8] Robert Dijkgraaf is the mathematical physicist who has made significant contributions to string theory. The Director of the Institute for Advanced Study and Leon Levy Professor since July 2012.

[9] As he did in his augural lecture at MIT, when he became the director of the Institute for Advanced Study. (IAS)

[10] The Economist, weekly magazine, November 2015.

[11] G. H. Hardy , A Mathematician's Apology, Stellar Editions , 1940.

[12] Ibid, p.88

disorder,"[13] and what comes across as order for us today, as architects, might be different than sense of order in the Renaissance.

The very use of the term 'post digital architecture' was a remarkable shift into admitting and recognizing the human role in digital design, and there is a fresh interest in new architectural range of beauties that stems from the growing acknowledgment in human's judgment, and cognitive intuition, as well as in its significance for a creative output[14], but also for arriving at what people like. Artificial Intelligence researchers, opting lately to press on the exploration of Intuitive Artificial Intelligence, as it expands beyond human's perception, awareness, and decision making, and augmenting digital gains[15].

It is the architects' creative role to bring new beauty to cities, and to substitute alienation with a wider pallet of emotions involved. Architects should try to remember that beauty is not a singular idea. The beautiful is many! We have to remember that the daily experience of beauty not only raises humans' wellbeing, but makes humans healthier – hence without beauty the idea of ecological design - architects utmost concern these days - fails too.

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[13] Ron Aharoni, Mathematics, Poetry and Beauty, World Scientific, 2014. P.30.
[14] Gerd Gigerenzer, Gut Feelings: The Intelligence of the Unconscious, Taschenbuch, 2008
[15] Maurice Conti, TED Talk, Portland, 2016, https://www.ted.com/talks/maurice_conti_the_incredible_inventions_of_intuitive_ai Conti is currently Director of Applied Research & Innovation at Autodesk. He also leads Autodesk's Applied Research Lab, which he built from the ground up. Conti and his team are responsible for exploring the trends and technologies that will shape our future.

Biography

Yael Reisner. Reg. architect in Tel Aviv, born there, and lived in London since 1990. A designer, an academic, researcher, writer. Has a PhD from RMIT Melbourne, AA Diploma, RIBA part 1 & 2, and a BSc in Biology.
Yael Reisner Studio is an architectural research led practice.
She taught design nine years at the Bartlett, ten internationally, and was a guest professor at Peter Behrens School of the Arts / Architecture and Design, Düsseldorf, 2017.
Reisner wrote with Watson the book 'Architecture and Beauty, Conversations with Architects about A Troubled Relationship', Wiley UK, 2010.
Designed Take My Hand, Rights and Weddings, 2014, Barcelona.
The guest-editor of September 2019's Issue of Wiley's AD magazine.
The head curator of the Tallinn Architecture Biennale in 2019.
www.yaelreisner.com

Designing a Post-Occupancy-Evaluation (POE) Tool for Hospitals

Addressing functional and emotional users' needs in hospitals

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Synopsis

This abstract is an introduction to my PhD thesis in progress at Escuela Técnica Superior de Arquitectura de Madrid (Universidad Politécnica de Madrid). My area of interest is the influence of Architecture on Healthcare and vice versa. My research field is the environmental conditions (both quantitative and qualitative) in specific areas of an acute hospital where recovery takes place. The article focuses on the methodology followed on this study which consists of a literature analysis, a three-month hospital placement in Dénia (Alicante), study trips to reference hospitals and a three-month placement at the "Centre for Healthcare Architecture" Chalmers University of Technology, Sweden. The aim of my research is to design a post-occupancy-evaluation (POE) tool which gathers the latest research on evidence-based design, best practice advice and lessons learnt on hospital facilities.

Key words: Healthcare Architecture, Hospital, Evidence-Based Design, Post-Occupancy-Evaluation, User Experience, Qualitative Research.

1. Introduction

The purpose of this extended abstract is to share the research work I am developing for my PhD thesis at "Universidad Politécnica de Madrid". This project is being funded by "Ayudas para la formación de profesorado universitario FPU, Ministerio de Educación Cultura y Deporte de España"

My research project is based on the influence of the built environment on people's health. My field of interest is the environmental conditions in specific areas of an acute hospital. By environmental conditions I am analysing both physical/quantitative/objective aspects (sound levels, temperature, lighting levels, etc.) as well as psychological/qualitative/subjective components (art, views, greenery and music among others). The aim of this work is to develop an assessment tool that will rank hospitals according to their environmental quality and will also facilitate the decision-making process during the design stage.

1.1. Spanish hospitals

The "Instituto Nacional de la Salud" INSALUD created in 1978 was the national institution responsible for the design and maintenance of public healthcare facilities. This institution had its own architects specialised in healthcare architecture.

Due to the decentralisation of its competences to every region of the country, the INSALUD disappeared in 2002. Since then there has been a lack of coordination, knowledge and expertise on hospital architecture which has its direct impact on the conservation status of many hospital facilities nowadays.

1.2. Transdisciplinary research

Healthcare architecture has received little attention from the Schools of Architecture in Spain which do not normally include hospitals in their curriculum. Its design is a complex and difficult task that needs to be addressed by a transdisciplinary approach. Users become of a paramount importance and architects need to consider the functional and emotional needs of a wide variety of roles (nurses, doctors, other staff, companions and patients).

Poor architectural design results in weak environmental condition in vital places like a childbirth room with the only view of a clock hanging on the wall, an intensive care unit with no daylight reference or a patient hospital room with light glare from the bed.

1.3. "Well is the new Green"[1]

On a climate change paradigm, not only do we need more energy efficient buildings but also places that perform better at a human scale. Hospitals should be buildings that help us heal and promote our health and it is the architects' responsibility to deal with these demanding requirements.

[1] Clive Shrubsole, MSc Health, Wellbeing and Sustainable Buildings, UCL.

2. Methodology

2.1. Method

The diagram below (Fig.1) summarises the method followed.

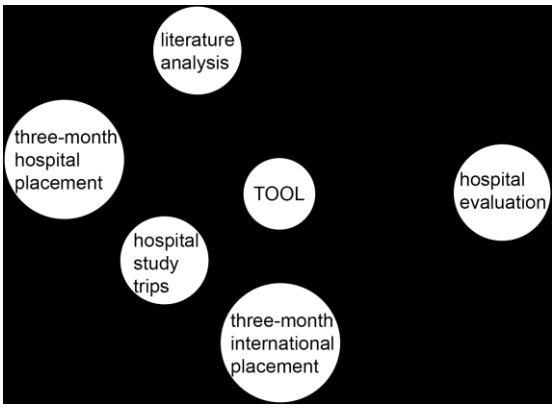

Figure 1.

– Literature analysis: studying Spanish standards and recommendations for healthcare units, British standards and other international guides. Analysis of evidence-based-design research on papers.

– Three-month hospital placement: Hospital Marina Salud de Dénia. Placement sponsored by “Beca DKV Arte y Salud”. Observation on site, sketching, walking and semi-structured interviews to staff, patients and companions.

– Hospital study trips: visiting reference hospitals in Spain and Sweden.

– Three-month international placement: learning from the researchers at the “Centre for Healthcare Architecture” in Sweden.

2.1.1. Centre for Healthcare Architecture

The School of Architecture at Chalmers University of Technology in Gothenburg has a specific centre where not only architects but also nurses, environmental psychologists and occupational therapists conduct research and training on the interaction between healthcare, patients and architecture.

Thanks to this collaboration, this centre provides knowledge and coordination to the different stakeholders at a national level. Thus government decisions on healthcare facilities are founded on research-based knowledge which improves the long-term social investments.

3. Results

From December 2017 to February 2018 I collected data with the POE tool from four different hospitals (Fig. 2). These results include information about the areas considered in the study which are some in-patient units (paediatric unit, neonatal unit, maternity ward, internal medicine unit and intensive therapy unit) plus the circulation spaces.

Figure 2.

4. Conclusions

When the tool is finished, I will be able to provide hospitals with a mark that grades the environmental quality of the areas studies and a list of items that could be addressed to improve their results.

Thanks to this POE tool, more architects would have an easier way to access information about best practice, research knowledge and lessons learnt from other hospitals. Thus, they might be able to make better informed decisions when designing hospitals and hopefully hospitals will perform better at a human scale.

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Biography

Laura Cambra-Rufino. Born in Ontinyent (south-east coast of Spain), Laura graduated from Architecture at Universitat Politècnica de València in 2012. After finishing her MArch she got a job at the Vertical Transportation team at Arup London where she worked for almost three years. During that experience she designed the vertical transportation strategy for goods and people on a wide variety of building types including airports, conference centres and hospitals. Since September 2015 she has been working on her PhD at Universidad Politécnica de Madrid which focuses on the influence of the built environment on people's health. In order to understand hospital performance from its user perspective she has spent a large amount of time in hospitals: a three-month hospital placement and several study trips to reference hospitals in Spain. In March 2018 she moved to Gothenburg for a three-month placement at the "Centre for Healthcare Architecture" Chalmers University of Technology.

The city in the frame

Intersections between comics and architecture

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Synopsis

Comics, purely a spatial medium, represent the point where *words*, *sequences* and *images* meet, possessing a big potential of building powerful stories about people, places and emotions. The flexible hybrid graphic medium of comic strips, which combines in their structure, the *narrative element*, *space* and *movement*, have always had a strong connection with the notion of the “city”. Functioning as a narrative generator, the urban landscape is an important plot element, even atmospheric, and symbolic protagonist, remaining ideologically associated to the original story of the comic. A rich and varied manner of expression, not only used as an amusing artistic medium dedicated to children and teenagers, comics can be a stimulating manner of rapidly promoting the political, cultural and aesthetic particularities country of its origin.

Key words: Comics, sequence, narrative element.

The increasing popularity of comics, as a way of reflecting on everyday life, can't exist without the full understanding of the architectural framework in which the action takes place. As the desire "to see the city" is present in many comics, different illustrators explored the city, as the definition of the framework within which daily life runs, but also as the origin of modern myths, carefully studying the aesthetics and the atmosphere.

As comics and the notion of "city" have always been linked on a number of levels, every modern metropolis in the world has been made the subject of a comic strip - Berlin, Paris, Tokyo, New York - providing a different and productive view that reads the city with all of its contradictions. Various comic artists have used architecture as an accurate background for conflicts between fearless heroes and frightening villains, or as a foregrounded graphic element, overlapping the limits of their unique version of the city over the limits of the real city, thus becoming a key element for the manner in which events run in a comic series.

The presentation will contain a brief overview of the main technical aspects of the comic strip, along with a historical perspective, but resuming only the history of American comic strip, which gave birth to the contemporary form of this artistic medium. It is important to mention the joining of the American comic strip, with comics produced in other cultures, such as the French and Japanese, together forming the "golden" triad of the domain, to emphasize the complexity of the field as well as the dependence of the comic strip on the economic, social, political, cultural and architectural context. After this, I will examine the city, fictitious or real, from three categories (the city as a negative character, the city of superheroes and the *nostalgic city*) as the support framework in which the whole action takes place, a key element in the manner in which the events take place in a comic strip, being able to play the role of symbolic protagonist, or to become the focus of attention.

Since immemorial times, sharing a story is deeply rooted in humans' social behaviour, stories being the channel to impart knowledge, to discuss moral principles or to satisfy various curiosities. The fact that man felt, since ancient times, the need to express himself using sequential art is underlined by Scott McCloud, which nominates in his book „Understanding Comics" a series of artistic manifestations, starting since prehistory, like: cave paintings, paintings on the tombs' surface of Egyptian leaders, scenes engraved of the surface of jewelry, Japanese medieval parchments, silhouettes painted on Greek vases, scenes depicted on the surface of heroic and religious monuments, paintings found on the interior and exterior walls of churches and monasteries etc. Evolving rapidly into paintings and engravings, comics show a massive increase in popularity with the advent of the printing press, thus making them accessible to the general public and with the first contributions of illustrators in American newspapers, [1] until the natural evolution of things led to the moment in which the comics became an independent publication.

Although today a number of architects have already explored the potential of comic strips in their architectural proposal, the relationship between architecture

[1] With sixty years before comic strips entered the space of American newspapers, Rodolphe Töpffer (1799- 1846), illustrated the first comic strips, naming them, "[his] little madness", thus creating the first comic juxtaposition of images and text in Europe. Using William Hogarth's remarkable series of paintings, *A Harlot's progress* (1731) and *A rake's progress* (1733) as model, Töpffer created almost a century later, his own graphic manner of expression.

and comics, can shape its starting point from the moment when Le Corbusier manifested his fascination for Rodolphe Töpffer's comics[2]. Also, the architect chose to use the graphic narrative in „Lettre a Madame Meyer" (1925), for the presentation made for his client, of the unrealized project of the Ville Meyer (Neuilly-sur-Seine, Paris), using both *image* and *narration*, in a *sequential presentation*, consisting of fluid sketches, unframed, with similar proportions.

As part of the demonstration the presentation I will also mention the architects and architectural groups that laid the foundations for the alternative presentation of the architectural object, using hypothetical projects to portray a utopian world, as well as remembering the social and economic context in which they developed. In the '60, the visionary architectural groups, like Archigram, Archizoom, Metabolist Movement or Superstudio, created poetic proposals, defined by a strong technological enthusiasm, explored the possible evolution of machines, embracing or questioning the technological utopias and the social aspirations. The combination of visionary architecture, pop culture, art and rebellion, shows the work of architects who were deeply concerned about the rapidly changing needs of society, making also an important contribution by joining the attributes of this type of sequential presentation and the traditional architectural representation.

The architect who creates this type of exercise is allowed, because of mixed nature of comics, to present analytically and critically the story of the architectural proposal. All these elements lead to a number of different graphical results, in terms of composition, dynamics, colour, rhythm in which the story takes place, differing from traditional comics, enriching the presentation of the architectural object, and encouraging us have a much more detailed discussion about it.

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[2] Luis Miguel Lus-Arana. "La Ligne Claire de Le Corbusier. Time, Space and Sequential Narratives." Le Corbusier, 50 Years later, International Congress, LC 2015 (2015)

Biography

Gențiana Cristina Dumitrașcu. Graduated from The University of Architecture and Urban Planning “Ion Mincu” and has currently finished her doctoral thesis at the above mentioned university. With a experience working as a teaching assistant for 1st year Architectural Design Studio classes at the Faculty of Architecture and for 2nd year Product Design Studio classes at the Faculty of Interior Design, both within the University of Architecture and Urban Planning “Ion Mincu”, Bucharest, her research interests focus on the intersection between architecture and comics. With a comic strip about a Romanian communist prison published and several projects, with children and students, about architectural comics in Namibia, Africa and Bucharest, Romania, she wants to take the research further.

The Pheasant Island

A threshold in Time

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Synopsis
This project investigates the intersection between border territories and collective memory and their roles in defining architecture within the human-built environment. It addresses the gaps in understanding how different architectural tools and its implications perform the human spirit of drawing division lines in time.
I examine the condominium agreement as a novel form of border division. The case study will be on Pheasant Island, with the goal to delve deeper into how the condominium works, how time shifts work in this context, and how it was applied and can be applied in various contested contexts.
My fieldwork on Pheasant Island is rather singular since this condominium is not only the oldest and smallest in the world but also the only one where the sovereignty is not shared simultaneously but alternately. It is a very symbolic place for both countries, even nowadays; however, there is a lack of public knowledge and material about how this island works and the reasons behind this rare example.
Key words: Border, threshold, collective memory, contested, condominium

1. Borders.

In a border space, the physical space intersects with quandaries of flow, control, identity, belonging, memories, and collective imaginings. The scale of such quandaries ranges from geopolitical to the intimate human identity. The project takes a starting point with these quandaries to explore how the border can be understood as a symbol and a memory for a country or a society. The physical border becomes a souvenir of what the border means, has meant, and will mean.

2. The Pheasant Island. A unique case study.

Pheasant Island, Isla de Los Faisanes in Spanish, or Île de la Conference in French, is a 2000 m2 island located in the Bidasoa River that divides France from Spain in the western part of their border area.

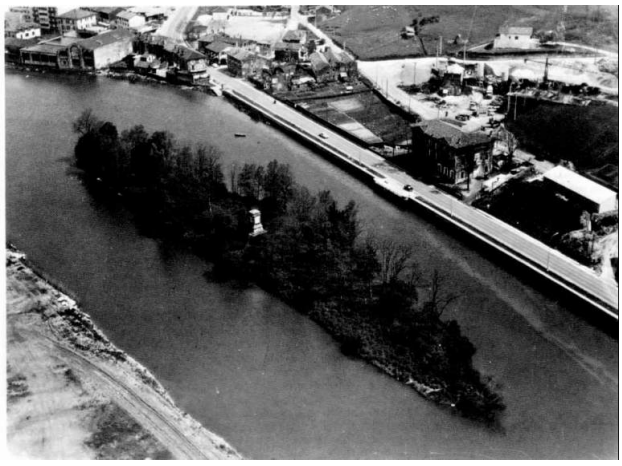

Fig. A[1]

This island is a unique example of a rare border arrangement: a condominium. A condominium is a territory jointly administered by two or more countries, often (but not necessarily) a territory on the common border between the parties involved. As one might imagine, such an arrangement depends on the benevolent cooperation of all parties involved, and indeed, historically, most condominiums have not survived very long. What makes Pheasant Island unique is that it is the oldest and smallest condominium in the world and also the only one where the sovereignty is not shared simultaneously but alternately. Every six months, a ceremony takes place on the island, where the military forces from Spain and France exchange the sovereignty of the island for half of the year.

3. Story of the Island and the first Royal Encounter.

The story of the island as a shared territory started in 1659 when Spain and France used it as a meeting point to sign the Treaty of the Pyrenees that finished the 1635-1659 war (also called the 100 Years' War) between the countries. This extraordinary event for the two nations finished the most protracted conflict

[1] Around 1970. Pheasant Island (Spain/France)

between them but also opened a new phase in their relations. A year after, in 1660 Louis XIV from France and Maria Teresa de Austria from the Spanish Crown got engaged on the same island to ratify the treaty.

4. The first Royal Encounter.

This crucial event is immortalized in several pieces of art and cartographic en-graves all around Europe. With them, a narrative started around the sacral character of the island. Moreover, in consequence, not only the geographical space but also, the ceremonial actions around this event that included the preparation and buildings that hosted the engagement. One of the most interesting documents recreating the Island for the Royal is the one I found at the Military Archives of Stockholm. It is an old depiction from the 17th century, and it depicts the building that was constructed for the wedding and the "delivery" of the infant Mara Teresa de Austria to Louis XIV.

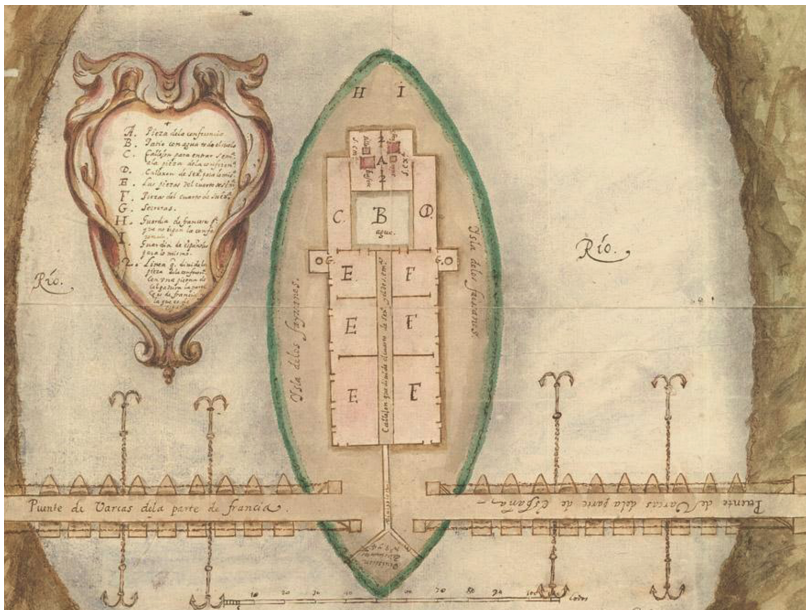

Fig. B[2]

It is a symmetric building in which the space is divided into several chambers as a processional encounter device. The members of both countries' courts would cross each room separately until they arrived at the last one where both retinues would greet each other.

This depiction is just one of the many representations of this event, and the building was specially designed for the encounter. Many sources state that

Diego Velazquez–from Spain–and Charles Le Brun–from France–were responsible for decorating the structure. [3]

[2] Anonymus. Utländska Krigsplaner. Kriget mellan Frankrike och Spanien 1635-1659. Nr. 30ª. Krigsarkivet, Stockholm (Sweden)

[3] Sáinz, Luis Ignacio. (2006). La isla de los faisanes: Diego de Velázquez y Felipe IV Reflexiones sobre las representaciones políticas. Argumentos (México, D.F.), 19(51), 147-167.

It is fascinating to analyse how this building is represented in very different shapes and sizes in various artistic representations but always retains the location of an island that is reached from two sides (two countries) by two bridges. It is a symmetrical composition for a mirrored encounter space between two national powers. All these representations started a common imaginary image of the island which; we do not know how it looked, or if it even existed in the way it was depicted, but this representation has been used as part of the creation of the collective memory of the physical space.

On the other hand, one of the essential pictures of the encounter is a piece from a tapestry series depicting the life of Louis XIV by Charles Le Brun located in the Palace of Versailles. The one that portrays the engagement agreement on the island was later replicated as an oil painting by Jacques Laumosnier, which is now at the Musée de Tessé in Le Mans (Figure C)[4] .The importance of the event, becomes evident by the identification of the people depicted in the picture.

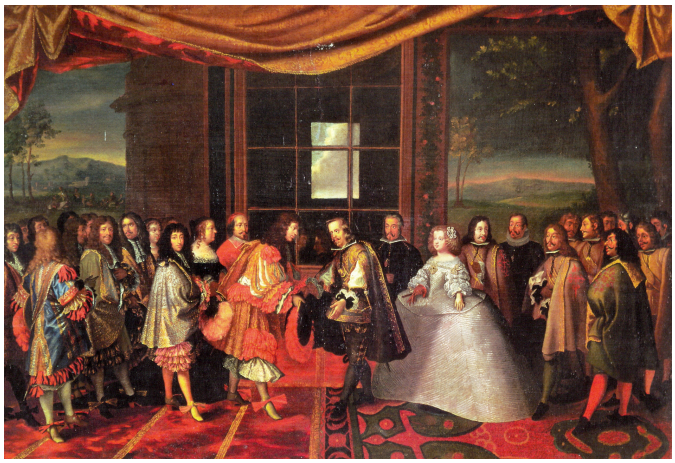

Fig. C[4]

Jumping a couple of centuries in time, another treaty was also signed during the 19th Century by Isabella II of Spain, in Bayonne, not far from the Island place. It set the border between France and Spain as it exists to the present day and mentioned the Pheasant Island and its jurisdiction. [5]

5. Becoming of the myth.

Since the signature of this last treaty, the Island has become a particular “Persephone” for both countries that exchange the island’s sovereignty every six months[5]. Consequently, this island has gained great symbolic value for both countries. The island has developed its own story as a symbol and a memory. All the historical and highly symbolic events have turned it into a collective creation, and nowadays, these memories have become the real identity of the island—it is no longer only a physical space; the physical space is the souvenir of the real identity.

[4] Jacques Laumosnier. End of XVII century. Oil painting. Musée de Tessé. Le Mans (France)
[5] Bayonne Treaty 1856. Biblioteca Nacional de Madrid (Spain)

The continuous ritual exchange of the island and its inaccessibility to the public testifies to the almost sacral status of the physical space of the island in the imaginary countries.

During the last decades, its symbolic value has been continuously increasing, with the use of its image and name as a symbol of peace, reconciliation, and understanding between the two countries and with the use of the island's image in coins or postcards.

6. The physical space and the collective imagination.

The island is made of sand, and its location in the river mouth6 has made it vulnerable to floods and other natural events.

I found the final document, which confirmed the idea that the physical island no longer exists, in the Public Archives of Irun.

In 1969, Spain developed a project called: "Project of reparation and conservation of the Pheasant Island."[6] The plans that I found at the archive show how the actual island was built from an existing sandbank in the river. The mainland of the island was confined and retained by big rocks, and then, two processional and ceremonial stairs were created toward the shores on the French and the Spanish side.

This project is tremendously interesting because it reflects the technical background of how to build a physical representation of a myth at a one-to-one scale in a geopolitical level.

Even more explicit in this sense is also the archive project by the architect Sainz de Vicuna in 1970 (Figure E)[7], which was never realized.

The architect proposed a museum of the Franco-Hispanic common history. From the analysis of the archive material, we can understand how the creative process started from an engraving from the 17th century (Figure D)[8], taking it as granted and as the real form of the historical island and building. The footprint of the new museum would follow that image and then transform and reshape according to the needs of a modern museum in 1970.

[6] Proyeco de reforma y conservación de la Isla de los Faisanes. Irún, April 1969. Public Archive of Irún. Urbanism Department.

[7] Proposal Aplril 1970 by Sainz de Vicuña. Courtesy of Sainz de Vicuña family archive

[8] Engrave by Bouttats, Gaspar, 1690. Vienna (Austria)

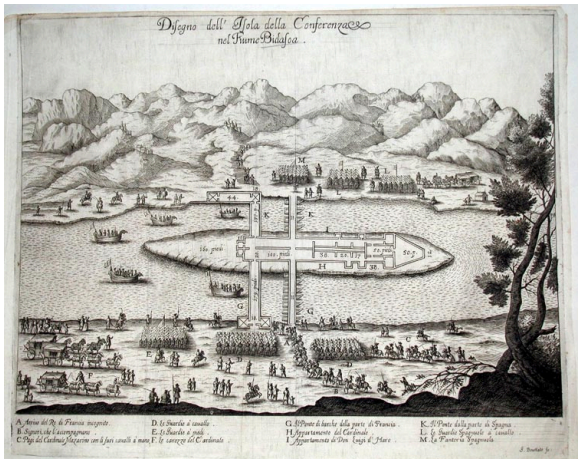

Fig. D[10]

Here, there is a big image issue regarding how an image created in the 17th century can influence the collective memory and collective image of a symbol or a myth.

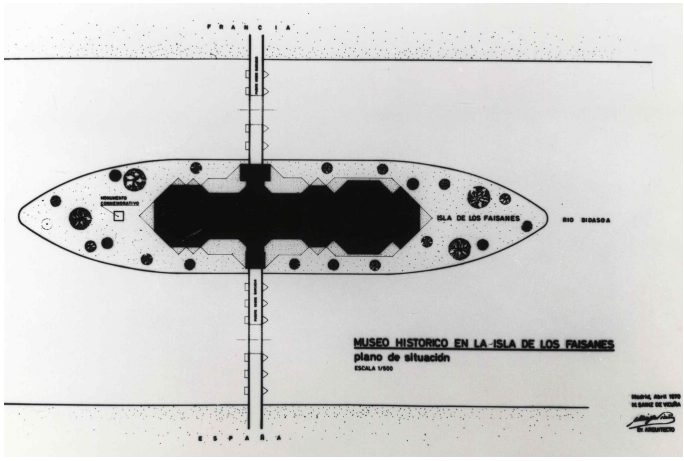

Fig. E[7]

This process is somehow parallel to the one that took place after the Austrian architect Fischer von Erlach released A Plan of Civil and Historic Architecture[9] in 1721 in the sense that this book was supposed to be an investigation of the world's architecture by depicting different monuments around the world. By depicting existing buildings, but also fictional buildings from far cultures, regardless of the accuracy of the picture, this book changed the notions of reality and architecture in the European context.

It looks paradoxical in the case of the island, the way the made-up physical space of the island is shared and exchanged every six months even nowadays by the military forces of both countries. Somehow, it is a very poetic representation of how borders are entirely artificial and just man-created.

After all this analysis, it became evident that the current physical formation of the island is only a souvenir or a representation of the physical space where

[9] Von Erlach, Fischer Guy. A Plan of Civil and Historic Architecture. (Gale ECCO, Print Editions 2010)

symbolic events took place. Thus, the true nature of the island is imaginary.

Fig.G[10]

[10] Voigländer CLR. Kodak ISO 200.. By Guillermo S Arsuaga

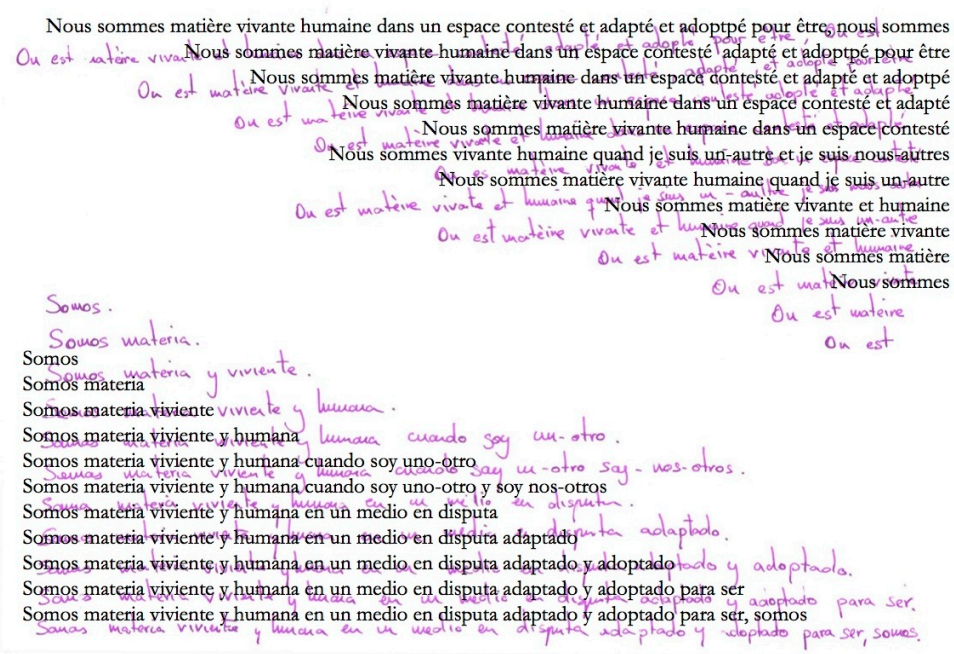

Fig. H[11]

Fig. I[12]

[11] Poem part of the exhibition Mindepartamentet- Stockholm. Spring 2017. By Guillermo S Arsuaga
[12] Instalation part of the exhibition Mindepartamentet- Stockholm. Spring 2017. By Guillermo S Arsuaga

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Biography

Sanchez Arsuaga, Guillermo is an architect and a researcher working with social issues related to borders, contested fronts, collective memory and imagination. Arsuaga is based in Stockhom, where he practices architecture and completes his research training at the Royal Institute of Art. In his work Arsuaga combines architectural perspectives to various art media.

The revolutionary kitchen

The kitchen as a catalyst of changes in the USA

Molina Calzada, Angela[1]
1. Universidad de Alcalá, Madrid, Spain

Synopsis

Feeding has always been linked to a specific area where this ritual is held. Primitive bonfires were the place where kitchen as a main space were food is either treated or cooked emerged. Feminist revolutions, globalization and technological developments have been the main reasons of kitchen developing in typologies, shapes and locations.
Women desires to abandon kitchen slavish space almost made the kitchen area disappear in favor of communal kitchens located in each residential complex.
Kitchen space has always been changing its size, appearing and disappearing depending on how society evolved. This is why we, as an organized society, should focus our attention on how this space will evolve. Will communal kitchens be the solution for a society whose relationships are constantly on the verge of disappearing? Will small kitchenettes be the winner and let us save either money or space?

Key words: Ritual, space, kitchen, relationships, society.

1. Introduction

Feeding is indispensable for survival. Before learning how to cook, humans used to spend almost the day hunting and recollecting, but it was only when fired emerged when the cooking activity reached a social status.

Figure 1.

Revolutions and the desire of society to enhance women rights affected how domestic space was understood (Fig. 1). The evolution of this space was directly affected by feminist revolutions and it is possible to ascertain the connection between this new social approaches and design. Women desire to abandon the slavish domestic space makes it possible to rethink this restrictive area and to expand the way it is either understood or lived.

2. The domestic revolution

Until the first feminist revolutions the public space, related with work and production, was linked to men and private space, home, linked to women.

Thanks also to the utopic ideas[1] that were being widespread all around the world many women in the USA began to rethink how domesticity should evolve and to plan new strategies that should be taken into account.

One of the most representative American women that tried to change the way home was understood was Catherine Beecher[2]. Her feminist ideas and her desire to enhance women importance made possible to spread new possibilities that have never been thought before.

[1] Utopians such as Fourier and Tomas Moro hardly influenced the revolutionary women by focusing their attention on planning new idealcities and neighbourhoods.
[2] American educator known for her forthright opinions on female education.

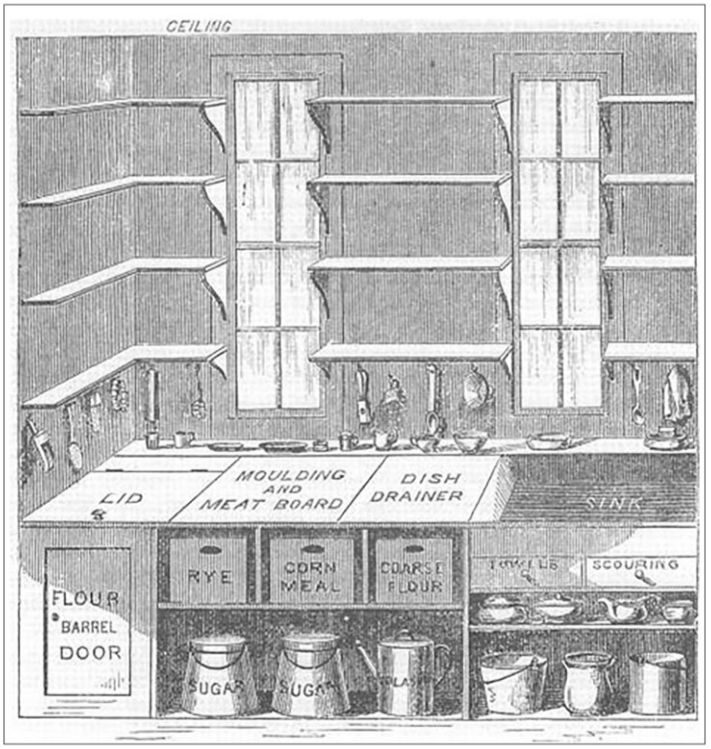

Figure 2.

She designed the ideal Christian House where women could do their domestic work without feeling absorbed. In this ideal house every domestic area was consciously studied and the kitchen was the most important area in the house. Due to the importance given to cooking the kitchen had to be designed following strict rules such as the amount of light it might have, the location of each wardrobe and also the height and length of doors and windows (Fig. 2).

Catherine Beecher was the first to try to change women condition but she was not the only one. Another important American figure was Melusina Fay Pierce[3] who spent all her life trying to defend women rights and fighting for equality between women and men. She created the Cooperative Housekeeping, a women organization where it was possible to do domestic labours with other women in a communal space.

Both of this women tried to break the chains that hardly tied women to the private domestic space in favour of new communal areas where this task could be done but always helped by the community.

3. Domestic independency

The new architectural approaches coming up made possible to rethink the domestic space and new approaches to collective areas where studied.

Population in the USA started in this moment changing their lifestyle and routines. Workers started leaving rural areas and cities began to grow faster so new building typologies had to be built.

[3] American feminist who believed that gender equality would only come with women's economic independence

3.1. First communal buildings

One of the most representative buildings that first included communal kitchens and diners was Dakota building[4]. The first floors of the construction were dedicated to communal areas such as restaurants, kitchens and shops whereas the top levels where the place where servants used to live. The apartments were located in the middle part of the construction and they were equipped with all the basic items a normal citizen would need.

3.2. New typologies for new generations

In 1870 125.000 single men lived in New York City what in this moment was a huge number compared with the total population in the city.

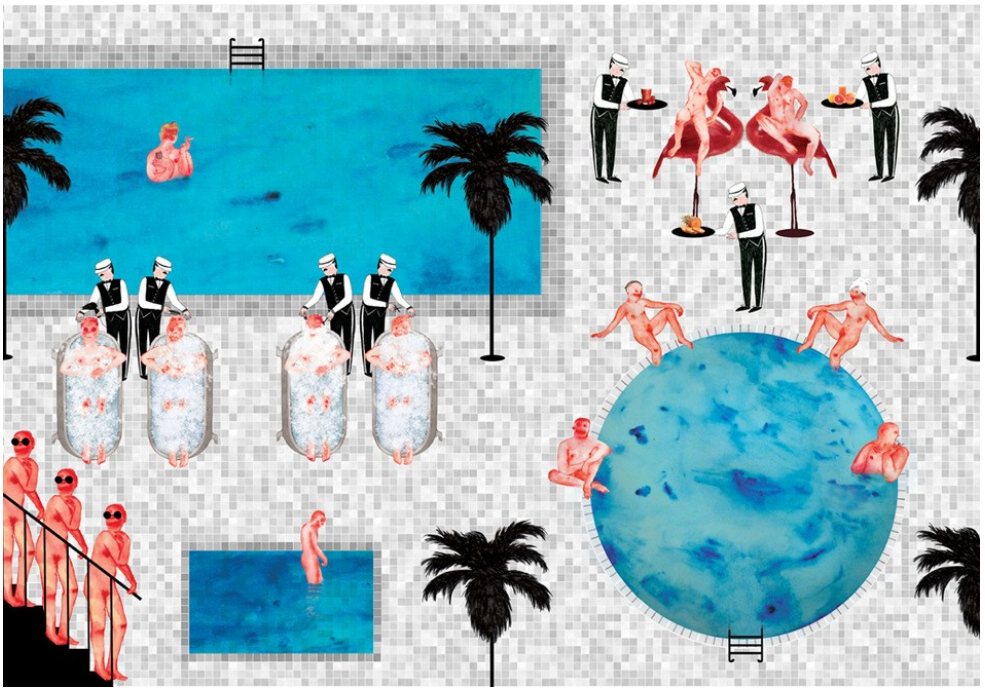

Figure 3.

This social group used to spend their free time in restaurants ant theatres and also used to have job positions that let them spend money if desired. With this new reality investors found a new way of earning money and it was by building apartments for this singles what was efficient at that moment.

This constructions included not only small apartments fully-equipped but also communal laundry, libraries, book shops, shops, swimming pools, kitchens and dinning rooms[5] where this men could spend their leisure time (Fig. 3).

Single women also where a new social group that emerged due to the new arrival of working women that had to leave rural areas and started working in offices and shops. New building typologies for them also emerged and they also include communal spaces that fits all their requirements.

[4] Due to the population growth and thanks to the development of the train in Manhattan was it possible to build the Dakota building that was the first construction to be built on the Upper West Side.

[5] Single men were not into cooking so communal dinners and kitchens were the solution for a new social class whose interst were not related with the domestic kitchen atmosphere.

4. Domestic decline

It is true that all the new communal typologies that emerged had many positive effects on how society evolved. It helped to establish new relationships and make society aware of the importance of domestic labours being shared.

But this communal approached also had disadvantages as it debilitates family relationships as now it was possible to prepare food in a collective kitchen instead of sharing this valuable moments with family or closer friends.

Due to this fact, a new independency desire emerged and cooking and eating was considered to be trendy if done in privacy.

The new buildings that where equipped with small non-kitchened apartments have to evolved so that cooking was possible inside and there was no necessity for using the communal kitchen. This was the reason why the kitchenette[6] appeared. A kitchenette (Fig. 4) was a small kitchen located in the small apartments and hidden in wardrobe but equipped with the basic furniture so that cooking was possible.

Figure 4.

Kitchenettes not only affected architecture and design but also how society used to buy products and consume them. Packed food emerged and it was now common to buy food that only had to be re-heated in the small kitchenette and eaten alone. It also affected food portions sides so that in the past steaks and packages used to be bigger.

[6] The kitchenette was hidden in wardrobes as the Tenemet Law House didn´t let residents to have their own kitchen at the apartmen.

5. What`s next?

As we can see the domestic kitchen space have been continuously evolving as time has passed.

New domestic devices, such as the oven and the microwave, made cooking easier and cleaner (Fig. 5).

Figure 5.

Society has also evolved (Fig. 6). As we can see at first the desire to share domestic labours almost made the domestic private space disappear. Then a new trend approached so that privacy embrace it importance so that this task were prefered to be done without strangers besides.

Figure 6.

What would be the next step? Will new feminist revolutions be the beginning of new domestic approaches with more communal spaces where this task could be done by either women or men? Or will by the contrary a new self-

privacy emerged so that we will all prefer to develop this task alone? Are we ready to take the risk?

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Biography

Angela Molina Calzada. Architecture student from University of Alcala, Madrid, where at the moment she is doing her Final Master Project.
Angela has been interested in domesticity since her first working experience in Paul McAneary Architects, London, where she realized how living spaces design not only affect our habits but also our inner personality and feelings.
The way society interacts and establishes relationships is totally linked to domesticity and this was something she discovered when she studied at Massachussetts Institute of Technology, Boston, as a research student.
At this moment she is working in By More architects, an architecture studio based in Madrid focused mainly on housing projects. There she is continuously learning new approaches and has started taking part in interior design projects.
All this experiences have made her personal interest on domesticity grow making her eager to keep on learning how domestic solutions can make society evolve.

Architecture for a new efficiency

Architecture without occupancy

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Synopsis

The 21st century society is proven to be addict to instant gratification and permanent comfort. In the search of this new efficiency, we became technology-dependent in almost every field of our lives. Urban planning and architecture are not alien to this phenomenon.
In USA's central belt, technology applied to logistics is dramatically changing architecture and, by extension architecture is affecting urban planning. New vast ghost cities are emerging in which architecture is inhabited solely by robots. A technology created by humans has expelled humans from architecture. Simultaneously, cities are being deprived of productive and distributive functions, generating empty spaces that need to be fulfilled.
This is a two-speed phenomenon: productive technologies inexorably speed up in the digital world, whereas transportation systems are yet analogic-dependent. Architects need to confront both the urban and architectural challenges emerged from this new reality and give a physical response to the irrelevance of human scale.

Key words: Technology, automation, efficiency, logistics, architecture.

1. Introduction

The present research tries to analyze the impact of technology in the living conditions of our society: from costumers' habits to the architectural response to the new requirements and technological improvements. Moreover, the research addresses the ethical and even physical consequences of our decisions as architects.

The research is motivated by the reflections made by Rem Koolhaas on the transformation of the countryside in western countries due to the implementation of technology in the productive and agricultural sectors. Through his perspective the research walks through the "re-evolution" of the countryside, the emerging dystopic panorama and the paradigm shift around the concepts of "city versus countryside"

Within this context, the research deepens the development of the logistic industry worldwide through the work of researchers such as Clare Lyster (Principal at CLUAA, Chicago, Illinois) or Jesse Lecavalier (University of Minessota). Focusing on specific cases, such as Walmart or Amazon in USA, and Alibaba in China, the research analyzes the effects of the implementation of technology in the architecture and the territory, as well as the effects in the affected socio-economic environments.

2. Twenty first Century's demands

Nowadays society is addict to comfort. We became instant "consumers": we expect instant rewards or instant and accurate services and we even expect "home delivery". In this new online shopping paradigm, consumers expect ever-faster delivery of the products they order. With the help of technology, sophistication of product handling has improved to fulfill consumers' expectations of reception from several days to "next day" or even to "same day". These instantaneous expectations are straining the current distribution/logistics model.

In this supply chain, Distribution / Fulfillment centers have acquired a high level of efficiency. However, there is still a challenge with the inefficient transport of goods. "It is an archaic distribution model built on a fragmented and inefficient network that cannot meet the increasingly tight time frames for delivery to consumers." (NAIOP, 2013)

Consumer expectations for ever-faster delivery times might require the Distribution Centers of the future to be located closer to those consumers and/or to logistics partners within the logistics chain. However, the spatial requirements of these new DCs seem not to meet these requirements, due to their large scale, their urban needs and the elevated degree of automation. This is where we confront our first dilemma, as urban planners and architects

Nevertheless, as intellectuals, we might confront a previous dilemma: should architecture promote and encourage these values that are installed in our society? Some prominent figures such as Rem Koolhaas, one of today's foremost thinkers and architectural forecasters, consider that "comfort is overrated". He has declared that security, comfort and sustainability have substituted the values of "Freedom, Equality and Fraternity" that promoted the

French Revolution. (El País, 2016). His provocative statements search to generate a reflection on the principles that might rule our society and how could architecture can contribute to resolve the conflict.

3. Technology to fulfil those demands

There are two specific sectors where the incorporation of technology to the productive processes have generated mayor changes, affecting even the configuration of landscape and architecture itself.

The first productive sector is agriculture. In the last decade, farmers are diversifying and technifying their processes. Land husbandry is now a digital and computerized practice: farmers can now-a-days work on their laptops from anywhere in the world. In terms of the working system, the countryside is becoming very similar to the city. Dairy farming and animal husbandry are also increasingly automated. Agriculture is being increasingly subordinated to the market economy and landscape is being digitalized (Fig. 1). This new digital frontier is changing the way we understand even the most far removed environments. For instance, there is a software, Helveta, which enables people in the Amazon to identify and track every single tree. Tribesmen have turned into digital informers who are able to inventory their land. A new order of rigor is appearing everywhere; a hyper-cartesian order is being imposed on the countryside, as it was previously imposed on the cities.As Rem Koolhaas explains: “In spite of our active disinterest (and perhaps because of it) the countryside has become the most radically changing part of our physical environment, through our own massive interventions, multiplied by the colossal transformation that global warming is already imposing”. Radical transformations are no longer happening in the cites, but in the countryside, that is acting as a white canvas with no rules or limits for interventions.

Figure 1. Grandview feedlot (30-65.000 head of cattle), Idaho. Source: OMA.

The second productive sector is the logistic industry. Over the past 20 years there has been a huge proliferation of cartesian boxes (more than 14 million square feet) following a number of competing grids. The efficient manage and distribution

of products to consumers all over the world with immediacy criteria has led to the implementation of technology in Distribution Centers. In these centers, many of the tasks are already being developed by robots (such as searching for products, transportation, inventory), whereas human workers stand at the end of the productive chain as “pickers”. Although it’s too early to tell the role of this industrial revolution in the warehousing industry, it is expected that these technological improvements might progressively take away most of the “human” jobs (Fig. 2). Future DCs are predicted to count on minimal human presence: only for supervision, surveillance and occasional maintenance.

One of the most radical examples is the Alibaba’s warehouse in Huiyang, China. With 20.000 m2, there are 100 robots (AGV: automated guided vehicles) that receive instructions via Wi-Fi. They can travel at speeds of up to 1.5 meters (5 feet) per second and carry up to 600 kilos at one time. In a traditional warehouse, a worker might be expected to sort through 1,500 products during a 7.5-hour shift and fetching each item might require them to walk 27,924 steps during that time. “Now, thanks to the mobile robots, the clerk could sift through 3,000 products in the same shift, while only taking a significantly fewer 2,563 steps a day,” said the Alibaba Group company in a statement. Of course, the number of employees needed is almost insignificant (Fig. 3). This creates a new challenge for architects, as the design parameters shift drastically: the uninhabited architecture.

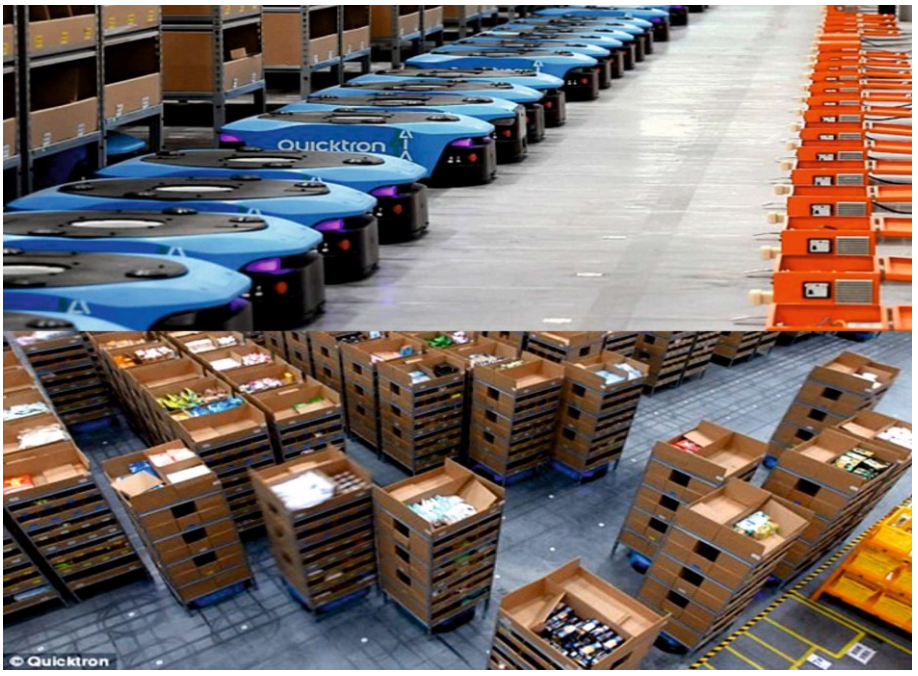

Figure 2. Alibaba’s Headquarters, Huiyang, China. Source: Quicktro.

4. Landscaping as a result of technology

But not only architecture is influenced by this new paradigm, it also affects the landscape and the territory where it’s implemented. This phenomenon is being studied by renown think tanks in USA and Europe.

Clare Lyster is the principal at CLUAA, a research-based design practice in Chicago operating at the intersection of architecture, landscape and planning.

In recent times the office has been researching on the issue of logistics. She states that, in the twenty first century the processes of globalization are playing a prominent role in urban planning: “systems and flows are more critical than form in generating space (…) While economics, transportation, information and technological continuity conceive the globe as a singular and unified construct, at the same time globalization has wielded a de-centering and discontinuity of the global spatial field”. (ACSA, 2011)

This de-centralization is being observed by other authors and it will dramatically change the conception of “the city versus countryside”. One of the most iconic examples is Rem Koolhaas, whose increasing interest in the processes developing in the countryside have led his think tank AMO to launch a research project on the subject with his students at the Harvard Graduate School of Design that will culminate in an exhibition at the Guggenheim Museum in fall 2019.

In the words of its curators “Countryside: Future of the World will present speculations about tomorrow through insights into the countryside of today. The exhibition will explore the effects of genetic experimentation, artificial intelligence and automation, political radicalization, mass and micro migration, large-scale territorial management, human-animal ecosystems, subsidies and tax incentives, the impact of the digital on the physical world, and other developments that are altering landscapes across the globe”. (Guggenheim news release, 2017).

Koolhaas’s concern on this issue emerged more than 15 years ago. He considers that there is a technological revolution taking place in the countryside that has been historically neglected by architects. In the exhibition “Cronocaos”, at the 12th Edition of Venice Biennale (2010), he exposed the issue of preservation and the impact that globalization has in the territory. There are two opposite processes taking place at the same time: there are massive migration flows from the countryside to cities, especially in Southeast Asia whereas in North America and Europe, the productive and industrial tissue is more and more being located in the countryside deploying a dystopian panorama.

The radical transformation of the countryside has gone unnoticed for architects, that over the past 20 years have been focusing their analysis and efforts in urban environments. Globalization and technology have affected the productive systems and also have dramatically changed agriculture. "Agriculture in America is more and more concentrated on a central belt that runs from the south to the north," said Koolhaas. "And there is a kind of seasonal operation where larger and larger machines that are used for harvesting are so big that no individual farmer can actually own one. They become like armada of machinery that that is so expensive that it has to function 24 hours a day. (…) That is concentrating a large percentage of all the production in America in a central zone.”

In the central belt of USA, that Koolhaas was referring, traditionally agricultural areas are suffering a radical transformation. This new technology that emerged in agriculture can only be afforded by big fortunes, whereas small farmers are confronting a dramatical impoverishment and are being force to

change their source of livelihood to the production and distribution industries that are simultaneously emerging in that area.

As the former farmer Philip Alfano explains “Historically we’ve been an agricultural- based economy. With our proximity to the Port of Oakland and rail lines, we’re now emerging as a logistics and supply chain hub.” (The California Report, 2017). This article explains the transformation suffered at the Central Valley in California, where the agricultural sector has been left in the hands of a few large landowners, while the distribution and business sector are burning, in part due to the growth of Amazon or big national companies such as Walmart, CVS, Whole Foods, Albertson, etc… Local governments have welcomed the boost in employment and they are even investing in training programs but, at the same time, many specialist are questioning this structure in the long term, as the working conditions are usually uncomfortable, salaries are low as well as the success expectations (Fig. 4). They mean also a threat to employment at traditional retail companies.

Figure 3. Amazon Distribution Center, Phoenix, USA. Source: AP Photo/Ross D. Franklin.

In addition, many specialists confirm that the initial employment boom of these distribution industries might decrease rapidly and show a growing concern about the potential impact of automation.

Rem Koolhaas considers that one of the factors that might explain Trump’s victory in the past 2016’s elections is this progressive impoverishment of the rural working class in USA and the effective lost in life quality and expectations: "I was not completely surprised when Trump won. (…) I'm not saying that Trump was inevitable but the scale of upheaval in the center of America made it very understandable for me that something else was going to happen." (Dezeen, 2016)

Koolhaas also addresses the issue of the effects of globalization and technology in the inner regions of North America and he is specially critic with the role of Silicon Valley: “As an architect, I am fascinated by the physical

effects of Silicon Valley's virtual propaganda. A new scale is emerging in data centers and distribution centers. Buildings are becoming bigger and bigger, the largest so far being Tesla's battery-making Gigafactory near Reno, Nevada. As they are increasingly automated and robotized, none of these buildings has large human populations. The human scale could become irrelevant." (The Economist, 2018)

He is concerned about the size these server farms, fulfilment centers or battery factories are reaching, as the surface they occupy is as big as a city but they will never have its density, which leads us to a brand new urban and architectural typology emerging in front of us. As architects we must take part in this transformation.

5. Architecture as a result of technology

In summary, there are two fundamental issues to address as architects: the location of these huge macro-structures and the immediate effects on the landscape, and the architectural approach to this new condition.

Regarding the location of the DCs (Distribution Centers), there are different opinions on the issue, due to the production technologies and the transportation means, as it was especially tangible in the competition launched in 2013 by NAIOP (one of North America's largest, most prestigious and valuable commercial real estate organizations). The competition sought concepts for the Distribution/Fulfillment Center of the Future. Several architects were to conceptualize and design the physical "goods exchange" structure that will accommodate distribution, fulfillment, and retail functions in the year 2020. Surprisingly, the two winners had radically opposite proposals, which gives us a clue of the challenge this issue brings to architects and urban planners.

The Ware Malcomb concept proposes a structure with the typical large footprint of Distribution Centers; its innovations are focused on spatial redistribution and materials handling within the building in order to obtain the maximal efficiency possible with the current technology. The bet was to locate the DC outside the cities.

In contrast, Riddell Kurczaba envisioned a vertical Distribution Center suitable for an urban setting (Fig. 5). Its "Swarm" concept moves the storage and distribution functions into the core of a 25-story mixed-use building, which also houses residential, office, and retail space and integrates goods movement that makes use of existing transit systems such as metro and light rail. This proposal departs from a strong assessment: "Distribution is broken. In an era of liquid digital communication, the traditional structure and roles of physical warehousing and retail distribution exist in a state of flux. New modes of consumption (e-commerce, m-commerce, and s- commerce) have challenged the role of the traditional retail storefront and put strains on the infrastructure and distribution systems which support it." (Industrial Building of the future, 2013).

Figure 4. 2013 NAIOP Winners, Distribution Centers of the Future, USA. Source: NAIOP.

A second important issue is the typological response to the new needs emerged. It is important to deepen in the consequences that the above-mentioned factors (globalization, artificial intelligence, automation, political radicalization, digital era…) have not only the landscape but in the conception of space and the new architectural typologies that might emerge. There are some interesting questions to develop, such as: “how architects should confront the design of a space that would be inhabit by robots rather than humans” or if “the future architecture might not need human presence anymore”.

Contrary to what has happened with the countryside, many architects are fascinated and/or “anxious” about infrastructures. Rem Koolhaas is not an exception; he talks about a paradigm shift. It might seem as the future of these Distribution Centers is not so much finding “cheap” workers but actually becoming institutions without workers. In his own words, “In some of today’s giant greenhouses light is not admitted for the pleasure of humans but reduced to that narrow part of the spectrum that promotes growth in plants. It is a return to extreme functionality. Given the massive building in the countryside and the reduction of human presence, architecture can become more radical. Today, humans need the color beige: we cannot stand stark contrast or color intensity. In the new technological spaces, however, you get a shock of intensity. Coding is creating its own aesthetic”.

We are witnessing the emergence of a new sublime. And this will have repercussions not only for architecture but also for citizens more broadly. It has a beauty that is in itself really amazing” (Fig. 6). (The Economist, 2018).

Figure 5. Facebook server farm (91.440 m2), Lulean, Sweden. Source: OMA.

The radicality of these boxes' interiors turned unpredictable for architects. They are characterized for such a high level of abstraction and codification and such a distance from human scale or any concept of spatial articulation that we couldn't expect it. Definitely, these new Distribution Centers are not designed for the humans that might inhabit them but for the robots, in order to increase the production rate exponentially. This is the description of one of Amazon's fulfillment centers (Fig. 7): "As soon as you pass into the building, you are enveloped in sound. Noises made by human workers and machines ricochet off concrete and metal into an indistinguishable industrial din, punctuated occasionally by the beep of a forklift backing up. Conveyor belts compose the base of this droning. They snake around the entire building, taking abrupt turns, spiraling from ceiling to floor, alternating from metal rollers to long treadmills, speeding up, slowing down, crisscrossing and finally converging like lanes on a large and complex freeway. An endless stream of brown boxes rides these pathways, traveling from human — the pickers who fill them with items — to the bays of trucks waiting outside." (The California Report, 2017).

Figure 6. Amazon Distribution Center, DuPoint, USA. Source: Amazon.com.

This condition of ubiquitous big box threatens architecture with irrelevance. The parameters are so far from conventional architecture that it is extremally difficult to handle. Light, program, atmosphere, temperature, comfort, accessibility…are substituted by efficiency, flexibility, accuracy and promptness. In his book “The Rule of Logistics: Walmart and the Architecture of Fulfillment”, Jesse LeCavalier develops an in-depth research on the functioning of Walmart Fulfillment Centers. In his opinion, logistics has taken over from mass production and become the new organizational paradigm for our age (Fig. 8). In opposition to any idea of architecture as autonomous form, the exterior of this “big box” adapts to make the store tolerable whatever the local condition. The paradox is that the goal of these structures is to disappear through camouflage while obtaining the most efficient flow of merchandise and information across space and time. The discipline of architecture is progressively addressing this challenge and giving significant responses.

One of the main concerns of this new typo is the protection of the environment, the rational use of the technical and energetic resources, as well as the economic and material savings. As an example, the implementation of bioclimate in the new Distribution Centre of “Farmacias Ahumada” generates a categorical and simple architecture in harmony with the natural environment. The architect, G. Hevia, looks for solutions for the distribution and handling of pharmaceutical products, incorporating the latest operational technologies and Bioclimate solutions.

Figure 7. Distribution Center FASA / GH+A | Guillermo Hevia. Source: G. Hevia.

6. Learning from logistics

These responses are frequently related to the strategies followed previously by the logistics industry, where efficiency and readiness are more relevant factors than comfort, as it has been mentioned above.

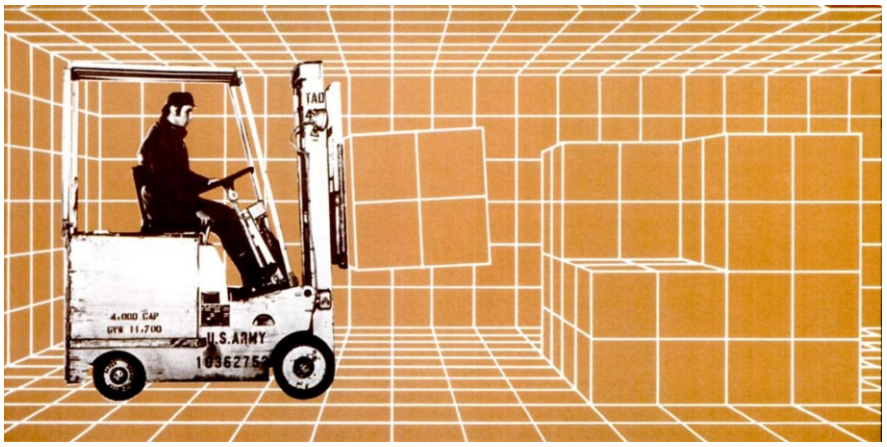

Figure 8. Are Walmart's fulfillment centers avant-garde architecture? Source: University of Minnesota Press.

In the 90's architects started to look at logistics networks as a way to control and enable the flows of material, people and data, which is what characterizes the contemporary urban condition. In recent times, it seems that the architects' interest has extended to the concept of design. In her book "Learning from Logistics" Clare Lyster studies the cases of three huge corporation logistics practices (Amazon, FedEx and Ryanair) and their related infrastructure, architecture and landscapes. These examples are chosen due to their territorial impact and reliance on a combination of digital and physical infrastructure. She explains how powerful these networks are as "urbanizing agents": through their practice, they are able to generate effective and actual changes in the territory. As an example, she describes Ryanair's practice of offering cheap direct flights between peripheral, underutilized airfields, effectively producing a new map of Europe populated by unknown places, creating an "alternative spatio-geographic indexing of the continent". Lyster relates concepts derived from logistics to paradigmatic architecture, landscape, and urban design theory and projects (such as OMA's Downsview Park proposal, Fig. 9) and extrapolates the consequences in concepts such as "site", "plan", "zone", "circulation" and "architecture".

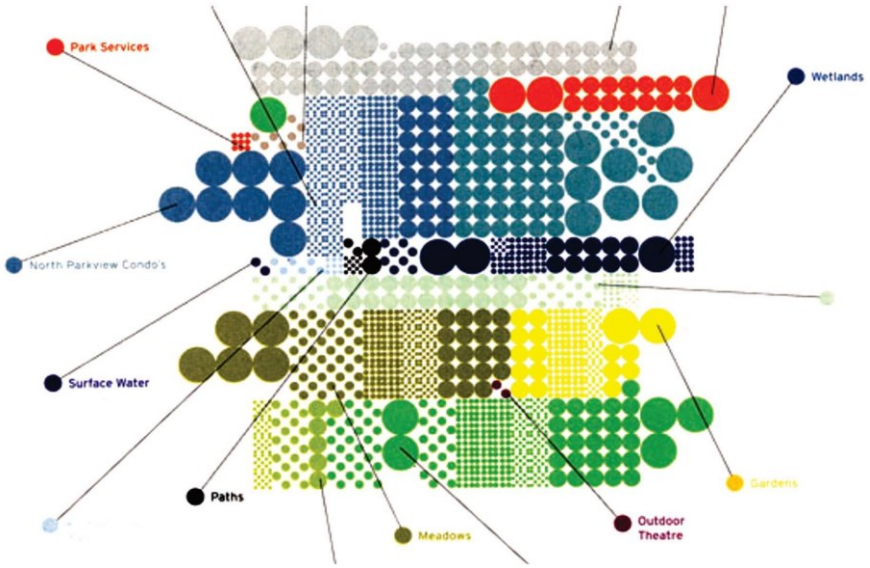

Figure 9. Downsview Park Diagram, Toronto, Canada, 2000. Source: OMA/AMO.

Lyster proposes to work with the “network” as the context, departing from historic interdependencies between geography, identity, and urbanism. To illustrate the “network context concept” she resorts to utopian visions such as Reyner Banham’s “Autopia”, Superstudio or Archizoom (Fig. 10). She also develops an interesting parallelism between the infrastructural “framework” proposals of the Metabolists, and the efficient ground surface distribution in logistics facilities.

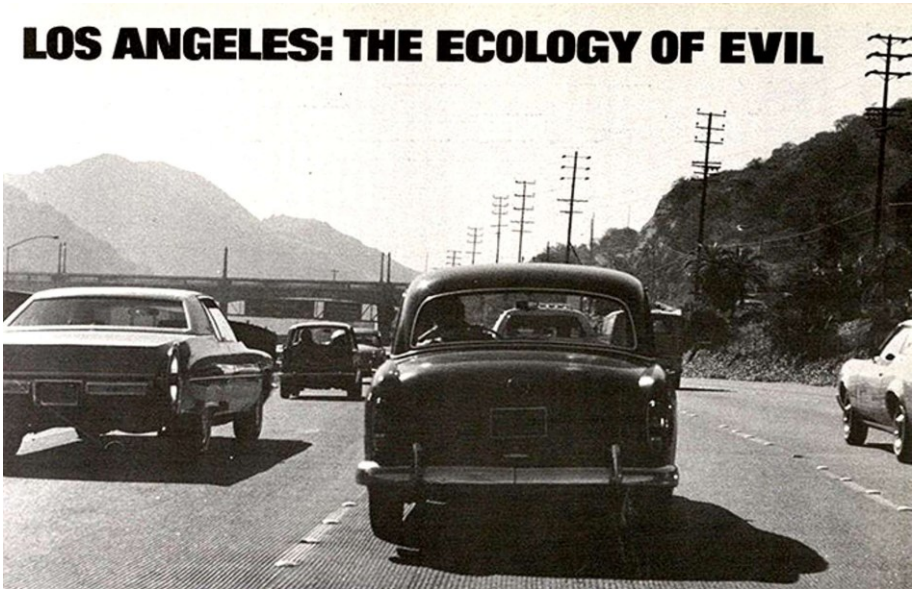

Figure 10. Los Angeles in the 1970s. Reyner Banham’s Autopia. Source: Peter Plagens.

7. Conclusion

The main contribution of this research is to reveal the consequences of the dislodgement of the productive industry to the countryside together with the increasing demands of “immediacy” and “comfort” by society. It is clear that the new social paradigm and the unstoppable development of technologies applied to logistic networks, will end up by transforming the urban condition around the planet.

These are the main consequences identified:

- With the Distribution and Production Centers located outside the city, it is necessary to implement the capacity of distribution lines, which will undoubtedly affect the traffic in the cities and their urban development.
- A new paradigm emerges in the relation between the city and the countryside. The city is no longer the place where radical changes happen. It is in the countryside where architects must face the new challenges and propose a genuine response according to the new parameters.
- Equally, a new architectural typology arises, that responds to many factors, from technological to sociological new conditions.
- This new typo will force the generation of a new urban condition. As Rem Koolhaas declared: “Architecture’s legitimacy has always been based on how it could accommodate, inspire, cherish, challenge, and console

its clients. What will it do to its status if the client evaporates? What will be the new legitimations?" (Flaunt, 2016)

As a result, the redistribution of these functions in the countryside will force architects to make important decisions regarding these new hyper-dimensioned ghost cities ("post-cities", R.K.) created outside the cities and also will encourage them to rethink the "empty" spaces that will emerge in the cities due to the loss of functions previously embedded in their urban tissue. The research shows that the ramifications of the issue are both new and varied and exposes the urgent need that the discipline addresses these mayor topics for the future of our environment.

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Biography

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Digital crafts. Procedural design in education and research

Case study of Félix Candela

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Synopsis

"Procedural design is often classified as a computational approach relying upon a set of instructions that, when used in a particular sequence, are the generators of form".[1]

The present paper discusses the importance of the algorithm thinking in the Schools of Architecture and PhD students. Procedural design enhances a scientific and rigorous approach to develop research projects, and a systematic workflow to design architecture. Students need to focus in the logic and the process of the proposal rather than the final outcome or the form.

Traditionally, architects or designers had to learn different crafts of their profession in order to become an expert. Today, "those crafts are mostly digital."[2]

We present part of a research project which consisted in the virtual reconstruction of the non-built architecture of Félix Candela. The workflow was based in a computational approach to generate an automation process for the different families of projects designed by the architect.

Key words: Procedural design, education, geometry.

[1] AHLQUIST, Sean. (2016). Procedural Design. *Acadia 2016, Posthuman frontiers*. pp 10.
[2] JABI, Wassim. (2013). Parametric Design for Architecture. Laurence King. pp. 12.

1. Introduction

Paremetricism has received a lot of attention since Patrik Schumacher [3], partner at Zaha Hadid Architects, elevated the term to the level of an architectural movement. According to the author, the most important movement since Modernism.

Parametric architecture is a process based on algorithm thinking. Designers have to establish a relationship between different parameters and rules, as well as describe the logic and intent of the design.

It is ruled by parameters, which are not the same as variables. According to its etymological definition, the word parameter (para – next to; meter – measure) means something that is there to establish another measure. As opposed to a constant, a parameter can contain a range of values which enables a parametric design to vary around a logic and a procedure.

Parametric and algorithmic thinking is not about any piece of computer software or any one particular syntax, but about logic, geometry, topology and interaction[4] (fig 1).

Figure 1. Branching Morphogenesis. Ars Electronica Center, Digital Art Museum at Linz.

Procedural design establishes relationships between the parameters following an ordered definition through inputs and outputs, however, it goes further than a simple relation between parameters. “Procedural processes become an active agent for resolving the relationships of system” [5]. In addition, to design a system based in a process, students need to order their ideas with coherence, consistency and structure. Those are all important factors in a scientific approach for a research project, hence its importance in the training of PhD students.

[3] SCHUMACHER Patick (2008). Parametricism as a Style – Parametricism Manifesto. London 2008.
[4] JABI, Wassim. (2013). Parametric Design for Architecture. Laurence King. pp. 1.
[5] AHLQUIST, Sean. (2016). Procedural Design. *Acadia 2016, Posthuman frontiers*. pp 10.

2. Interdisciplinary education

We live in the digital era. The new crafts for designers are mostly digital and there is a growing interdisciplinary connection between different disciplines.

Automation, mass-customization, continuous differentiation, iteration… are terms frequently used in the software development field, now borrowed by the parametric architecture designers.

The industries of cinema and videogames have propitiated the development of specific hardware and software, which have greatly benefited the architecture industry.[6]

The scope of architecture, design and other careers and professions are closer than ever. Training needs a multidisciplinary approach that allows the student to specialize in an increasingly connected network.

“Sooner or later, I believe parametric design has to be explored through algorithmic thinking and that means that the designer needs to achieve a certain level of comfort with scripting languages. Once you learn the fundamentals of programming, the syntax becomes a far less difficult hurdle to overcome.”[7]

A methodology with a procedural design specifies a sequence based in a relation of different parameters. This approach could be used to design architecture, levels for videogames or a coded city plan for urbanism. It is the duty of the designer to addapt that procces to its requirements.

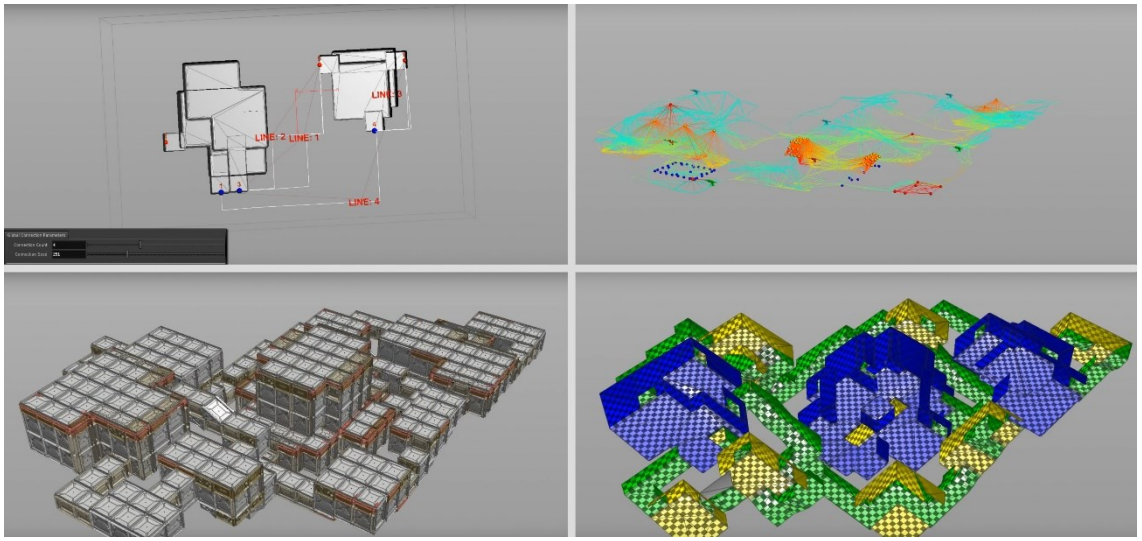

Figure 2. Procedural level design, Erwin Heyms, 2013.

Levels for videogames are frequently designed using a procedural design. In the example (figure 2), an architectonic space was defined by four different modules: landmark rooms, exists for the rooms, connections between the rooms with corridors and secondary volumes. The algorithm used allows to get multiple variations of the project, preserving the parameters that were firstly defined. A

[6] More detailed information can be found in: DEL BLANCO, Federico Luis; García, Ismael. Technology transfer: from Cine to Architecture. *Architectural Draughtsmanship, pp. 105 - 118*

[7] JABI, Wassim. (2016). Interview. Last visited February 2018. http://www.archsupply.com/parametric-design-for-architecture-wassim-jabi/

computational design presents multiple advantages, such as the possibility to analyze areas according to different parameters (in this case, dangerous zones). From the point of view of a procedural design, the same approach could be done from architecture students, adjusting the design to the discipline. The advantages of having multiple iterations from an initial design are not few, and the possibility of calculating simulations open new possibilities for a computational design of architecture.

One of the problems that we find with architecture students to develop this kind of projects, is the lack of knowledge that they have about scripting languages. Visual programming help in this regard. In a short term it simplifies the process to develop an algorithm thinking. Students with scripting knowledge could build their own personalized tools or extend the capabilities of existing software. The example in the figure 2 shows a project developed by students during a workshop. Students designed their own tools oriented to analyze terrains. The example shows a tool that automatically transforms heightmap information from the NASA database into the level curves of the terrain (figure 3).

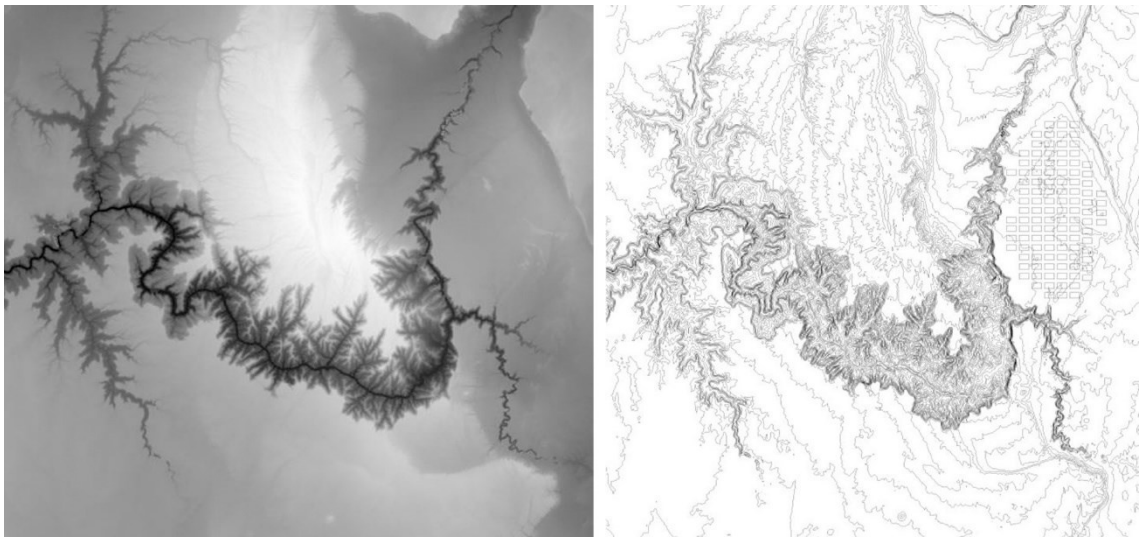

Figure 3. Terrains obtained automatically using a custom plugin.

The Mediated Matter research group at MIT directed by Neri Oxman (figure 4), conducts research at the intersection of computational design, digital fabrication, materials science and synthetic biology and apply that knowledge to design across scales from the micro scale to the building scale. For this purpose, the members of the lab have a variated interdisciplinary background, from architects to material engineers. Adding knowledge from different disciplines can open new research fields.

Figure 4. Chitosan based structures.

3. Procedural design for automation. Case study of the virtual reconstruction of Félix Candela non-built architecture

Procedural design offers many possibilities for researchers. In this communication we present a case based on automation. The project consisted in the virtual reconstruction of the non-built architecture of Felix Candela. After the collection of data and its preprocessing, the next step was to design different algorithms for the reconstruction of the projects, grouping them in different families of prototypes.

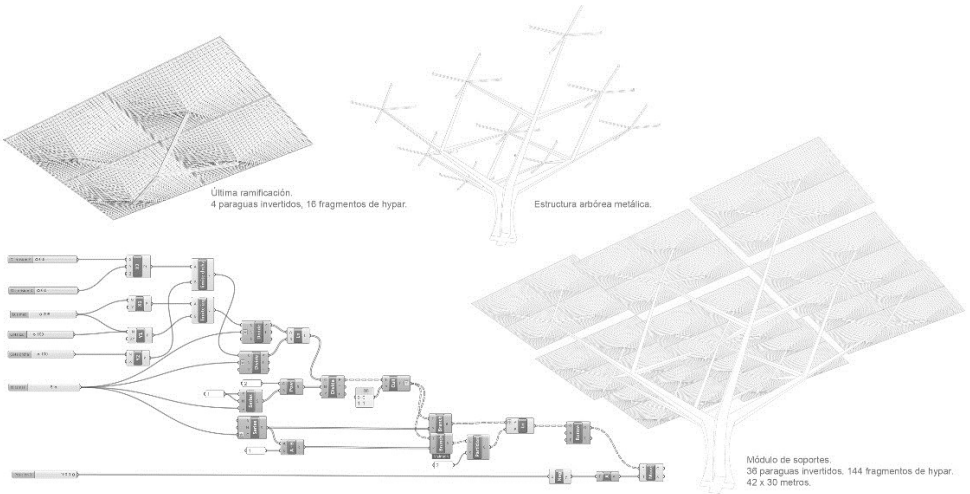

Figure 5. Variation of the inverted umbrela using a metallic structure. Images of the author.

The architecture of Félix Candela fits perfectly with this workflow, as he designed an initial constructive system, and applied multiple variations to it. The figures 5 and 6 shows the variations of the inverted umbrella adapted to different

projects.

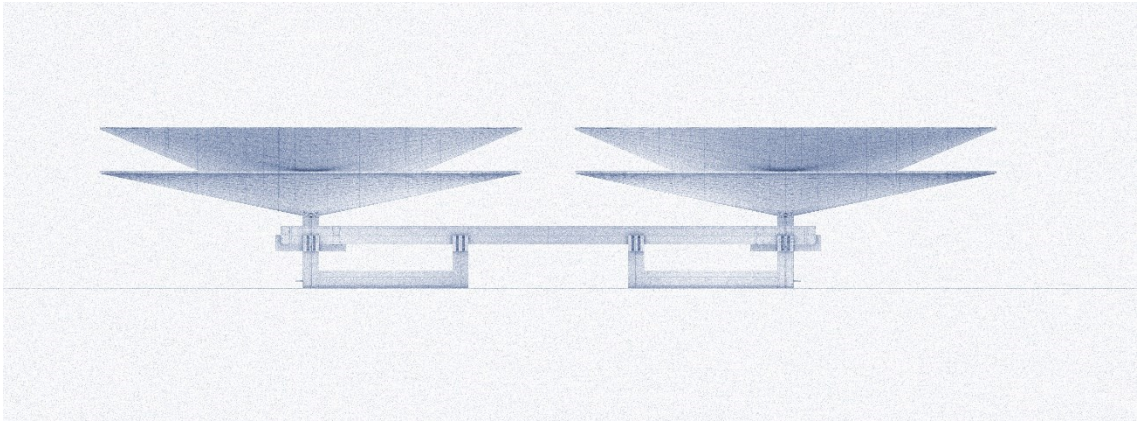

Figure 6. Variation of the inverted umbrella using the same definition. Images of the author.

The automation process allowed to produce 2.000 drawing for the documentation of the projects (figure 7). This amount of work would not have been possible using traditional techniques.

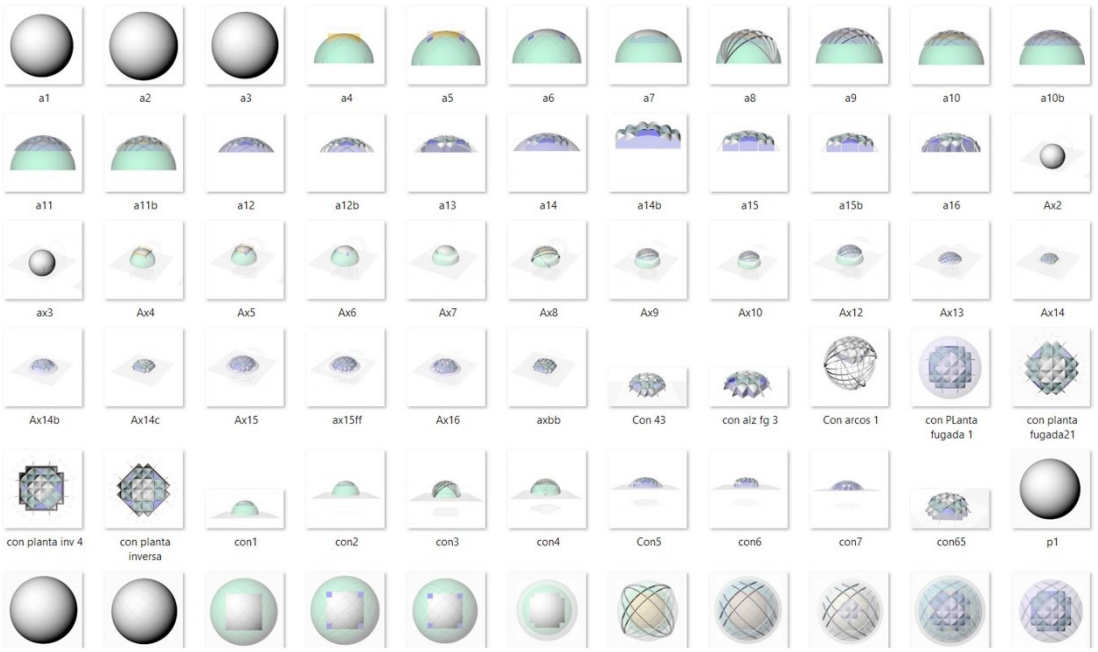

Figure 7. Generative process of one of the domes designed by Félix Candela. Images of the author.

4. Conclusions

Computational design is becoming more important in the industry of architecture. Students need an interdisciplinary background in order to achieve its potential and open new research lines related to design.

The results obtained under these circumstances are not only valid for a scientific point of view, but also academic.

Automated process can be designed for mass production, mass-customization, or simply to save time and man power in a project. However, to

design and implement an algorithm that allows for it, the student or researcher need to have enough knowledge of the digital tools, the new crafts.

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Biography

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Designing a different prison

Situational Architecture for inhabited spaces of detention

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Synopsis

In recent years, Architecture has returned to take an interest in penitentiary structures, rediscovering its civil and educational role.
Prisons represent a device of forced detention, preventing prisoners to move away freely from the spaces of imprisonment. Detention models develop from a control idea through which the State exercises its power. Space is the manifestation of that power. As these buildings serve as control, society "excludes" such infrastructures from inhabited centers, stripping them of their function of public service. Architecture can provide a different view of detention, suggesting a new way of living such spaces and offering ideas for legislative instruments to the State. Similarly, designers should communicate with the users of prisons in order to better their lives, playing a pedagogical role towards the inmates.
The paper summarizes these issues, starting from the researches carried out by the Department of Architecture of the University of Naples “Federico II”. The aim of this study is to define a method to design an inclusive prison, by using an exemplary project: the new prison for Nola, Italy. In this case, attention shifts from the typological definition of space to the action each person performs within it. The space is shaped from the measure of the gestures of man, determining a prison able to build positive relationships within people and its surroundings, serving society and the context in which it is located.

Key words: Prison, society, city, inhabit, situation.

1. Introduction

The exception to a rule recognized by society, could be identified as anything that undermines its stability. Spatial organisms control “exceptional” phenomena. Each State institution guarantees the order responding to the need for security in many different ways. Prisons ensure security coercively.

Between 2015 and 2016 Italy took a step forward with the *Stati Generali dell’Esecuzione Penale*, summoned by the Ministry of Justice. Several disciplines have offered a contribution to the issue of detention. Architecture was the main character of table 1. "*The table aims to develop new configurations of the penalty spaces for a model of detention based on the life in common areas and the proper performance of treatment activities*" [1]. The result of this effort is a list of operational proposals for design, including the responsibility of prisoners, the arrangement of spaces through a shared design between designers and prisoners and the need to relate the prison with its context, in order to define parameters to improve prisoners’ life.

2. Prison and city

Thanks to the analysis of existing prisons it is possible to outline three types of actions with which the city and the society relate to the exception: excluding, isolating and disconnecting.

To exclude (Fig. 1, “*Due Palazzi” prison, Padua*): the city rejects, in a border outside it, anything that does not respond to the rule, placing a spatial distance between the society and its exception.

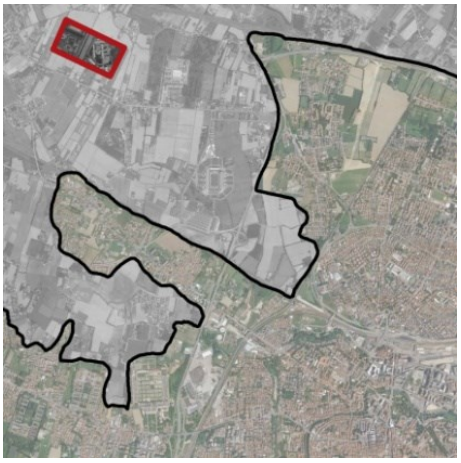

Figure 1.

To isolate (Fig. 2, “*San Vittore” prison, Milan*): the exception is isolated on a boundary inside the city. The portion of isolated space no longer serves the city; it is sacrificed in the name of control.

[1] Ministero della Giustizia, Stati Generali, Tavolo 1 [online],2016.
Retrieved from: https://www.giustizia.it/giustizia/it/mg_2_19_1_1.page?previsiousPage=mg_2_19_1

Figure 2.

To disconnect (*Fig. 3, prison in Nisida, Naples*): it refers to the physical distance that is determined between different control devices and society. Governing diversity is possible by relegating exceptions through a system of natural boundaries.

Figure 3.

The action identified by the Stati Generali is to "include". Man and his needs ought matter in the design of a spatial control device. Prison is no longer hidden, isolated or excluded and the community is called to take an interest in the world of detention. The purpose is to guarantee safety by empowering and rehabilitating the prisoners.

3. For a situational Architecture

"Prison should be the place of opportunity and not of deprivation, starting from the consideration that the lack of personal freedom is itself the punishment" [2]. This personal freedom should be limited exclusively by the outer enclosure of the penitentiary*, showing that to inhabit can still be considered an act of freedom*[3] . The Department of Architecture of the University of Naples "Federico II" has dealt with

[2] Giardiello Paolo in: Santangelo, Marella,2017. In Prigione. Siracusa: LetteraVentiude.p.151.
[3] Ivi, p.31.

penitentiaries in recent years through shared design actions[4] between prisoners and architecture students. The aim is to contribute to the re-education of prisoners from the identification of actions he performs daily. A further freedom is recognized, given by the possibility of choosing the actions to carry out within a given perimeter. We talk about situational design, based on the idea of placing an action in a site with specific characteristics to transform it into a place (Fig. 4-5, situational and shared design for Poggioreale). Even in prison "*the physical prerogatives of space configure the ideal circumstances for the action itself*"[5].

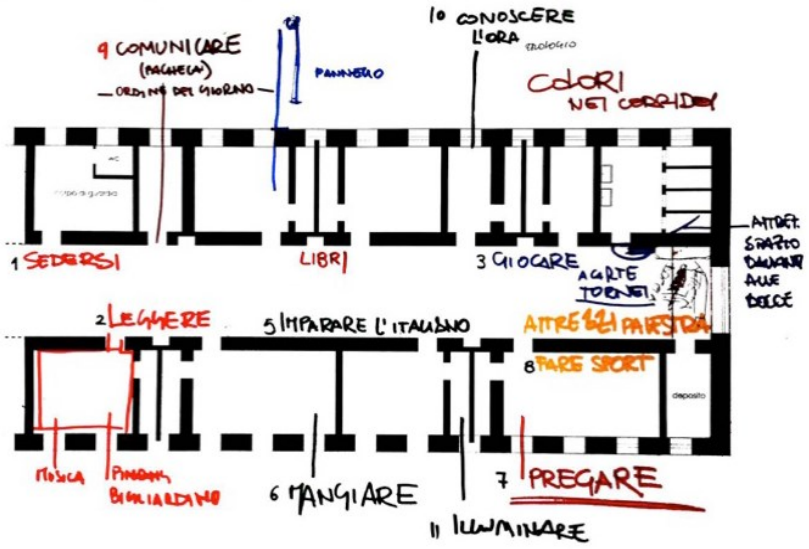

Figure 4.

Figure 5.

[4] Design workshops in prison promoted by prof. Marella Santangelo. 2015-2016: Vivere dentro. Riqualifyng project of corridors and a project for the courtyards (Casa circondariale Poggioreale, Napoli).2016: Abitare ristretti. Project for workspaces (Biennale di Venezia e Casa di reclusione Due Palazzi, Padova). 2017: FiveDots. Project for the corridor and the courtyard (Istituto penale per minorenni, Treviso).

[5] Farris, Amanzio, 2012. Situare l'azione. Firenze: AlineaEditrice. p.33

4. The project for Nola prison

Through a conscious design it is possible to build an enriched environment[6] that offers dignity as well as new experiences to prisoners. This design process is carried out in the project for a new prison in Nola[7] (Fig. 6, master plan), in which the space is conformed starting from the gestures of individuals rather than a performance based building design.

Figure 6.

The project is intended as a narrative device of the stories told by people known in prison during the design workshops: the need to eat together, to prepare their own meal, to have a space to store their own things, to be able to have a shower without being observed, to write letters, to hang the photo of their families. These stories allow architects to design spaces on a human scale, starting from the cell, which cannot be considered a simple bedroom. Resting is just one of the actions which take place in this space. *The bed itself defines the area intended for the most intimate actions. Its equipment is built starting from a casier* [8]. A flap door lets the prisoner write or play cards lying in bed; the presence of drawers allows him to store clothes; next to the cushion, an open compartment provides support and lightening in the evening (Fig. 7, the bed).

[6] Rosenzweig, Mark,1987. Enriched and Impoverished Environments. New York: Springer-Verlag.
[7] Casalbordino, Francesco, A.A.2016/17. Principi spaziali per un carcere inclusivo. Tesi di Laurea in Composizione Architettonica e Urbana. Università degli Studi di Napoli "Federico II", DiARC.
[8] The equipment presented by Le Corbusier in 1929.

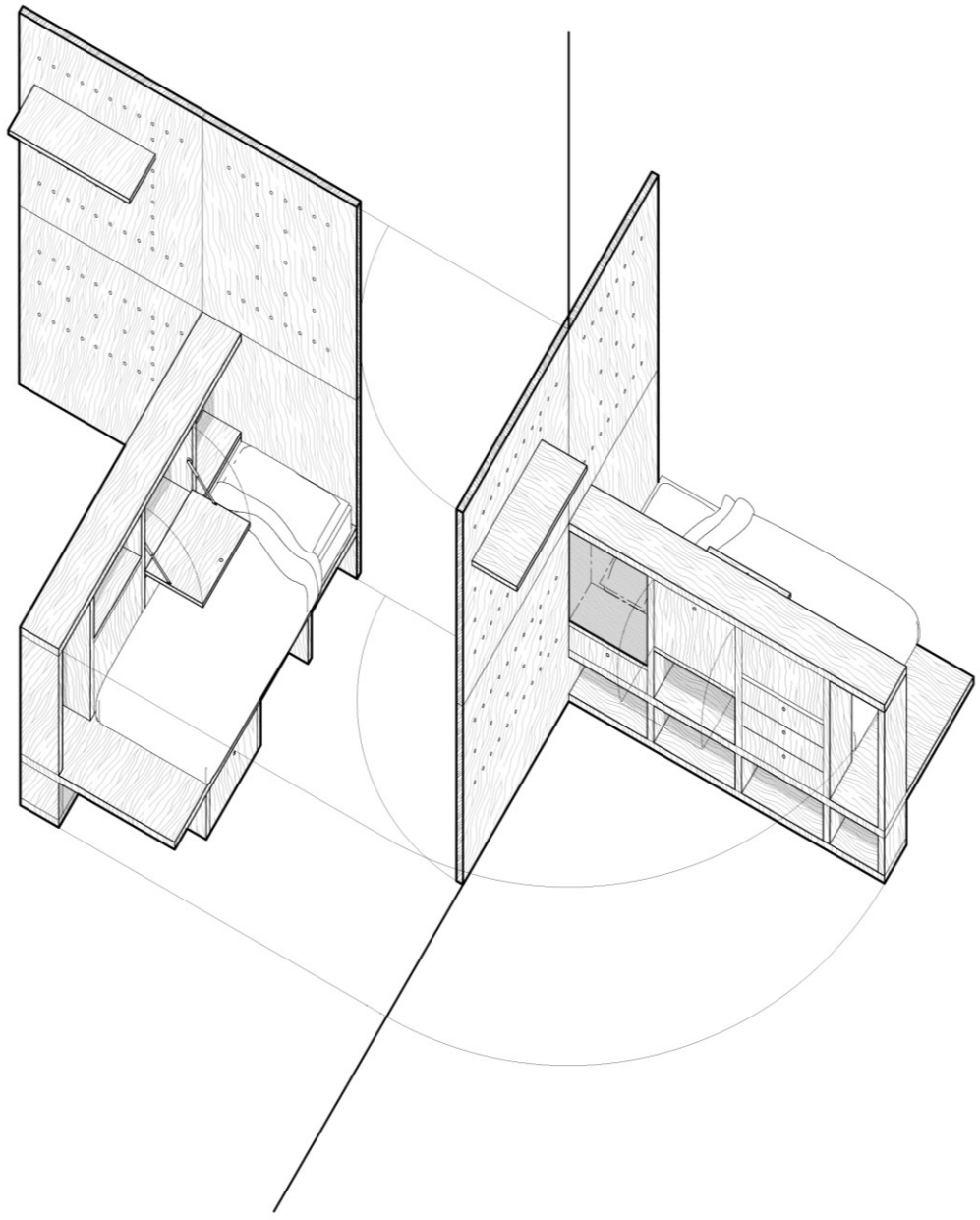

Figure 7.

The cell hosts part of the collective life. The possibility of being together must be guaranteed or suggested by space. Therefore, the different combinations of equipment always leave the necessary space for the temporary opening of a table around which to gather with the companions. An equipped wall, around which all the actions are carried out, organizes the cell. The entire space is projected outwards through a fixed window on the landscape that allows you to orient yourself in time and context (Fig. 8-9, the cell unit).

Figure 8.

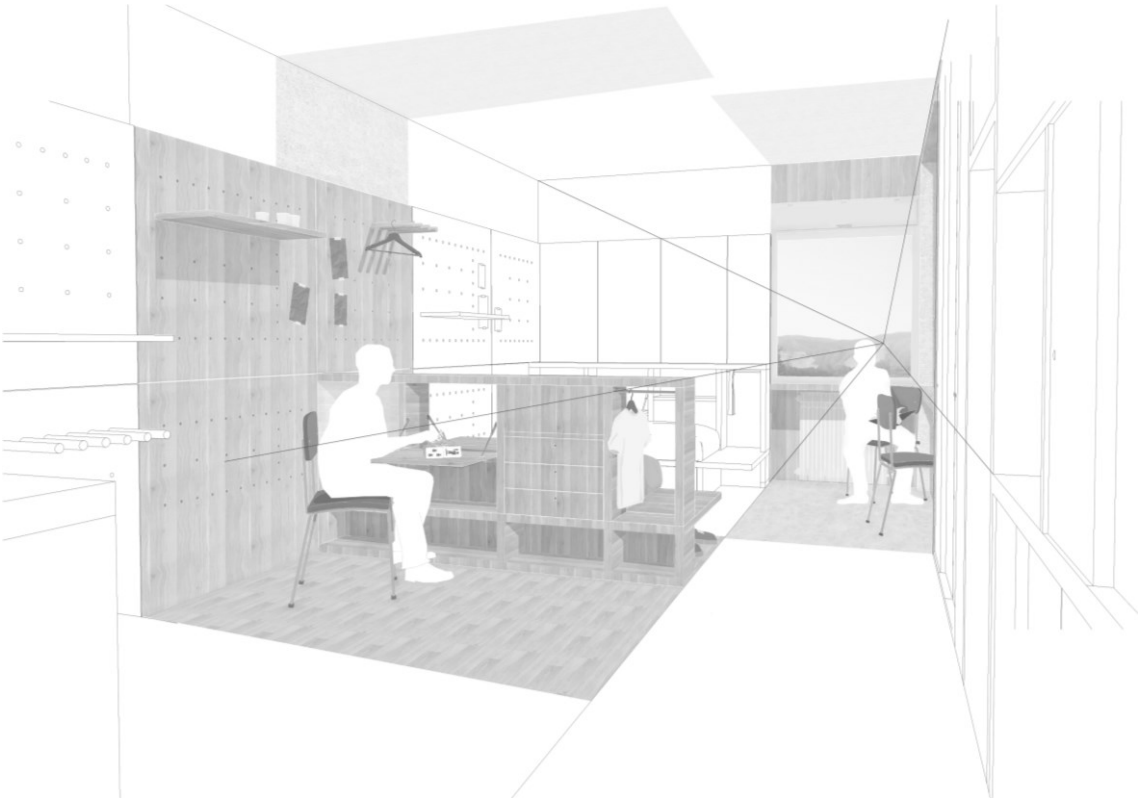

Figure 9.

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Biography

Francesco Casalbordino. Master's degree in Architecture at Università degli Studi di Napoli "Federico II" in 2018 with a thesis in Architectural and Interior Design entitled "Principi spaziali per un carcere inclusivo. Il progetto del nuovo carcere di Nola." From 2017, assisting the teaching and research activity of prof. arch. Marella Santangelo in the courses of Architectural Design at Università degli Studi di Napoli "Federico II". His research about detention issues has been carried out since 2015 with several participations in shared design workshops with prisoners.

From mechanical to digital paradigm

Empirical Methodology

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Synopsis

The new digital tools have become into essential instruments for architecture: they have revolutionized various fields, from graphic representation to conception and including to the development of new ways of transferring knowledge. The current computer tools allow us a more accurate representation of reality and digital manufacturing tools make possible to control the design and production simultaneously. The completion process has a great influence on the result.
Architecture must not avoid the existing reciprocity between the formal intentions and the possibilities of manufacture. The paradigm of the standardization, which it is present during the most of the XXth century, gives way to the digital paradigm present nowadays in the schools of architecture and the Fablab or Digital Laboratories. From an experimental perspective diverse international workshops have been organized, as an strategy to test the validity of the new digital paradigm.
For one week the students are working about deployable structures and they design architectural artefacts using a series of methodologies introduced at the beginning of the seminar. The new digital paradigm allows to produce exclusive prototypes in contrast to the mechanical paradigm that realized products in series. For this reason it becomes necessary to define some useful parameters to relate and compare different characteristics between prototypes, and all these parameters associated with the efficiency of the process.

1. Introduction. From standardization to digitalization process.

"Before the founding of the École des Beaux-Arts in Paris in 1671, the communication between the teacher and the apprentice took place through direct experience in building on site, and theoretical knowledge consolidated on a narrow contact with reality. After the institutionalization of architecture teaching and, as a consequence of the Industrial Revolution that required a massive amount of trained professionals, the traditional relationship between praxis and theory was reversed" (Borrego, 2017).

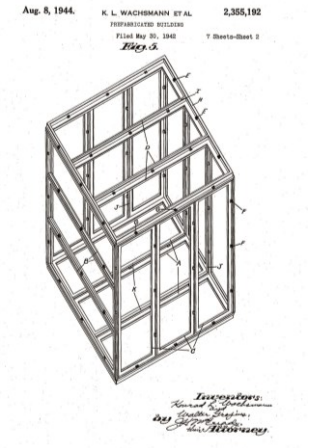

Figure 1. Patent `Prefabrication Building´ from Konrad Wachsmann and Walter Gropius. 1944.

Modern Movement of architecture, in the first decades of 20th Century, was aware about to standardize the prototypes following the metaphor of the machine. The Deutsche Werkbund, to which there belongs many German architects during the above mentioned period, tries to rationalize the constructive process through the industrialization, principally those authors who were in favor of the Typisierung (Frampton, 1987); that process consisted to realize this industrialization work from the standardization of a few types. In the Bauhaus, the school inaugurated by Walter Gropius in 1919, is possible to find new standardization theories being part of the teaching matters and new architects learning about it. Gropius was obsessed about the complete prefabrication of the construction process and he designed, along with Konrad Wachsman, a series of prefabricated houses as prototype. The result was registered in a patent titled `Prefabricated ´ and it is described: "It is the chief object of the invention to devise a building structure which can be assembled exclusively, or substantially so, from standard units or sections, each consisting fundamentally of duplicated of the other, so that they can all be manufactured completely in a factory equipped with machinery for producing them efficiently" (Wachsmann, Gropius, 1944).

Since the introduction of the computers in the studios -from 1992-, the digital processes are habitual for the architectural practice. Nowadays architecture is inconceivable without the use of software like Autocad, Maya or Rhino. The debate is no longer focused on if these tools are optimal resources or not, but how they are changing the architectural process. One of the most important consequences is the possibility of working with complex geometries and the possibility to parameterize designs applying complex algorithms. Also it allows to relate the

design and the production processes. As consequence is already not necessary to standardize the elements to diminish costs and allows the production of the only prototypes and this way: “The crisis of traditional tectonic codes that defined the hierarchy of building parts and its meaning represents another crucial aspect of the contemporary digital architecture scene.” (Picon, 2007).

This individual aspect of the architectural prototype also is described by Nicholas Negroponte in Being Digital, where he exposes the individual condition of the digital condition. Negroponte is the creator of the MIT Media Lab (Technological Institute of Massachusetts), a center where the international network named Fab-Lab Network is promoted. This network is pioneering in what it is named the “third digital revolution”. The Fab-labs are laboratories for the investigation and the innovation, as the development of new emergent technologies as the development of its applications. Their investigations focuses on the development of digital software associated to the digital manufacture using the most new tools, as printers 3D and cutters laser that favor the prototypes achievement to scale 1/1.

The new forms of computerized digital manufacture allow to integrate during the design process all the aspects of the constructive process in a complex combination between the abstract geometric definition and the specific realization.

Figure 2. Prototype. Digital Fabrications &Deployable structures Workshop. TU Berlin. 2018.

2. Digital Fabrications &Deployable structures

The seminar ‘Digital Fabrication & Deployable Structures´ is organized with the format of intensive workshop. Thus a limited group of students will have the possibility to transform the theory about folding structures into real prototypes of scale 1:1, designing prototypes related with the idea to colonize a space to be inhabited. Different groups share for one week the same workspace, an studio with tables to work in groups, enough free space to test the different prototypes and the laser cutter for the immediate execution of the designs during the whole process. During the first days we explained to students basic notions of the patents of Emilio Pérez Piñero, Félix Escrig and Charles Hoberman. They could find here different deployable structures options

to choose and to apply for their proposals during the workshop. Also some necessary instructions to use the cutter laser (SABKO Gmb HSH-G1290, 1200mm x 900mm) are explained and in an independent way for every student. They will have badges of MDF dyed black of 3 mm of thickness, in two sizes 1200 x 900mm and 1200mm x 300mm, to design the bars and knots. The joints of the knots will be solved with screws, tweezers or other elements that the student could estimate. Also it is possible to include complementary elements during the design process of the prototype, like textiles materials, tensile, etc. Another day it is planned a brainstorming session, to explain different ideas for the prototypes and possibilities for the designs. After that the groups start the process of test and error building the prototypes or parts of them at the same time that the students are designing: this strategy help to make decisions, to detect problems and to find solutions efficiently, and all of these elements into real scale. This shared experience serves as creative catalyst of solutions in common: all groups can learn of the other students and prototypes. This approach help to observe how the prototypes are evolving and improving in every moment, and always with the necessary technological precision during this process of digital fabrication. The seminar turns into an updated version of the medieval guild studios, where the digital media has substituted the specific tools of craftsman, and the models evolve with the precision of the system of production. Finally each group of students complete ‘specific prototypes’, which are evaluated by different indicators that in its set help us to quantify the idea of efficiency of every prototype.

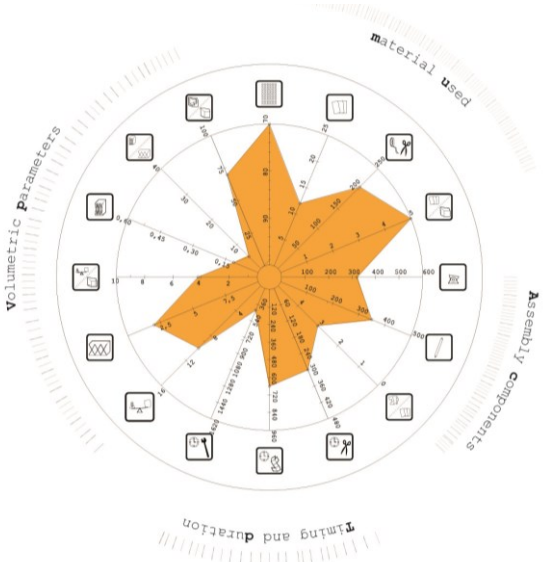

Figure 3. Efficiency ruler. TU Berlin. 2017/2018.

3. Conclusions

The parameters designed allow us to value therefore each prototype opposite to others, since, its direct comparison is not possible because all of them are different. The digitization of the process is what allows the uniqueness of the architectural designs and the prototypes. Parameters as foldable index, duration of the assembly process, duration of the cutting process or superficial module variation are used to verify the efficiency of each `Specific Prototype´.

Figure 4. Specific Prototype. TU Berlin. 2018.

Considering all the parameters, we generated a multidimensional scale or ruler, endowed with several axes, that allows us to measure the efficiency of the generated prototypes. As a general criterion, one prototype would be more efficient than another, if its diagram, once represented pm the aforementioned scale, had a smaller surface area. The results shows the validity and possibilities of the digital process: it allows the manufacture of differentiated models, something quite expensive in the previous mechanical paradigm and it allows to realize an comparative analysis between the prototypes using parameters to prove their efficiency. Maybe we are in the beginning of a new period where the educational model of the workshop or seminar is implemented again. Workshops with the idea of making gadgetry that unite the optimization of the process, as the followers of the Typisierung were chasing, and simultaneously to preserve the uniqueness of the designed object, as the followers of the Kunstwollen were chasing in the debate opened in the Deutsche Werkbund 100 years ago. Perhaps, in this period, we are able to reinterpret the possibilities of artisan craftwork from the perspective of the digital paradigm.

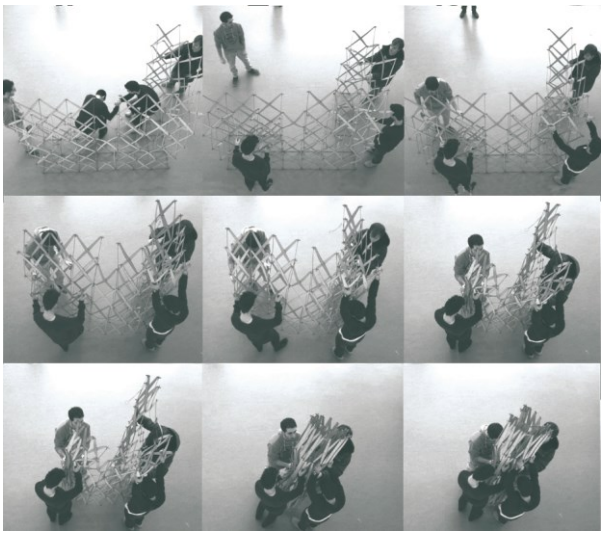

Figure 5. Specific Prototype. TU Berlin. 2018.

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Retrospective-Retroactive Evaluation of Architecture Student Projects Competition

ArchED Experience

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Synopsis

As we know, especially in the areas where creativity plays a major role it may not be very fruitful to implement standardized teaching-learning sessions to help young designers to develop their design abilities. There is a strong need for different types of learning to widen the students learning processes. To be able to realise this objective, we believe, it is so important to organize suitable environments for young designers to learn from their peers and exchange their ideas. student architectural design competitions can be perceived as flexible, learner-centered environments where students have more effective learning opportunities. With this point of view, Association for Architectural Education (ArchED) started to organize a student projects competition, Student Awards for Architectural Education, since the year 2002.
The main focus of the paper is to analyse and evaluate this competition within the framework of architectural education based on different aspects and indicators of learning processes.

Key words: Architectural education, student competition, ArchED.

1. Introduction

Learning processes are extremely complex processes create different results on each personality. In the 21st century education landscape, in which one of the main components of the learning processes has become “creativity”, has been in rapid and extensive transition processes from teacher-centered structure towards learner/student-centered one. In this paradigm shift, students have endless opportunities to extend their learning space and time to anywhere and anytime.

Hopper and Seaman characterized 21st century learning environment as learner-centered, inquiry-based, technology-rich, interdisciplinary, collaborative and personalized. As a similar approach, Norman ve Spohrer (1996) stated that in this “learner-centered education” focus is on “problem based approaches” rather than “content” that was in the traditional education approach. This new approach has not based on curriculum but rather on learners and their interests and needs. This philosophy may not be ultimately a new approach but the new interpretation of it without any doubt has applications spread to different fields with more diversity and enhancement.

These radical changes and ongoing discussions create constantly different impacts on different countries/regions/schools to question the existing curriculum and their applications. This approach does not only focus on formal education and curriculum but gives a very big importance to extra-curriculum, or we can say informal activities, as well.

Undoubted all these discussions affected deeply design education. Lead educators, students and architects question present design education, its stakeholders and their interactions to find new approaches. As we know, especially in the areas where creativity plays a major role it may not be very fruitful to implement standardized teaching-learning sessions to help young designers to develop their design abilities and related skills. There is a strong need to include different types of learning opportunities, tools, participative actions in an organized but at the same time rather chaotic style to widen the students learning spaces to enhance their learning processes.

To be able to realise this objective, we believe, among other factors, it is so important to organize suitable environments for young designers to learn from their peers and exchange their ideas. In order to widen the space for exchanging ideas, learning from others experiences student architectural design competitions can be perceived as flexible-interdisciplinary-learner centered environments where students have more effective and efficient learning opportunities. With this point of view, Association for Architectural Education (ArchED) started to organize a student projects competition named “Student Awards for Architectural Education” since the year 2002.

2. Purpose and Scope

ArchED (in Turkish: MİMED) is a non-profit governmental organization and aims to progress architectural education in Turkey. One of the important organizations of ArchED is “Student Awards for Architectural Education” that has been accomplished successfully for the 16 year by the voluntary precious

contributions of our academic members and the power of dedicated sponsors of ArchED that is so much valued by architecture students in Turkey with their interest and affection. This competition consisted of projects produced in architectural studios in Turkey and Turkish Republic of Northern Cyprus has a well-deserved reputation with its increasing number of participants and the independent evaluation process by international jury members in recent years. This year ArchED has organized the 16th “Student Awards for Architectural Education”. Throughout the years all the award-winning projects together with jury reports have been published by ArchED and distributed not only in Turkey but also at a global level. Awards are structured according to grades of the students; there are 4 groups of Awards for 4 grades each having one “Success Award” and “Encouragement Award”. There are also “Jury Special Awards” designed for promising projects depending on Jury’s decision.

First competition in 2002 attracted only 110 entries. But since then entries have increased up to 549 by the year 2015. Between 2002 and 2015 all the projects had been evaluated by the jury members during face to face jury sessions but by the year 2015 it has been understood that there should be a preliminary evaluation in order to have feasible number of projects to be evaluated by the jury members in live sessions. As a result, the ArchED web site was altered and developed to run the online evaluations by the jury members. In the last two years ArchED has been successfully implementing this evaluation model. By the 2017 entries has reached to 606 from 36 universities. After the online evaluation by the jury members 308 entries have reached the second phase.

3. Methods

The aim of ArchED’s student projects competition, within this content, could be called as to create a big architectural design studio covering all schools of architectures with their different attitudes and positions. Students work on their projects again and again, review and refine them in terms of visual models and present them to the jury for evaluations. They are the part of the architectural discourse with their own ideas, projects and presentations. That is a strong setting with its participation, exhibition, colloquium and publication processes, which supports not only the critical, creative and visionary capacities of students, but also all the architectural education society.

The main focus of the paper is to evaluate this competition that has been organized since 2002 within the framework of architectural education.

In the first part of the paper ArchED Student competitions will be outlined and analysed according to number of participations. Award winning projects and their distributions to different schools.

These competitions are forming a kind of space where all the stakeholders are learning and earning experiences that are in one way or another interact with each other. These interactions can be listed as follows;

- These competitions offer an oppotunity to students to include these projects into their portfolio no matter they receive award or not.
- Student may extend their networks and strengthen their visibility.

- Publications of the ArcED students' competitions projects and announcement of the results and dissemination of the winning projects on the ArcED web site create important publicity for ArchED and Students as well.
- Competitions create opportunities for students to compare and evaluate their own skills and design performances with their peers and learning from these experiences.
- Interactions between students and jury members create an informal learning environment where students are encouraged to learn-unlearn-relearn.

These interactions will be analyzed and evaluated in the second part of the paper. Third part will be devoted to the evaluation of the impact of these competitions on architectural education based on different aspects and indicators of learning processes. The paper will be finalized by the Conclusions.

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Biography

Gülsün Sağlamer. Former Rector of Istanbul Technical University (1996-2004) is a professor of architecture. She was a post-doc researcher in Cambridge University (1975-1976), a visiting Prof. in Queen's University of Belfast in 1993-1996 and also an external examiner at the Department of Architecture of QUB (1999 and 2003). Gulsun Saglamer is a registered architect at the Chamber of Architects of Turkey, Istanbul. She designed several important architectural projects and received awards at national and international levels. She is a member of the Editorial Boards of "Open House International", "International Journal for Housing Science and Its Applications". She is the founding president of the Association of Architectural Education ArchED. She was a Board Member of European University Association (2005-2009) and she is the President of European Women Rectors Association (EWORA) (2015-). American Institute of Architects awarded her "Honorary Fellowship (Hon FAIA) in 2006. She has been also awarded "Leonardo da Vinci Medal" by SEFI (Société Européenne Pour la Formation Ingénieurs-European Society for Engineering Education) in 2005-2006. She is a member of European Academy of Sciences, Arts and Letters since 2011.

Meltem Aksoy. Meltem Aksoy is an associate professor at Istanbul Technical University, Faculty of Architecture. She completed her Bachelor of Architecture at ITU and also holds MSc and PhD degrees awarded by the Architectural Design Programme from the ITU Institute of Science and Technology. She received her PhD in 2001 with a thesis entitled "Analysis of Shape Grammars in the Context of Existing and Potential Design Languages." She was as a visiting scholar at the University of Newcastle upon Tyne, CARDO, UK in 1994 and at Carnegie-Mellon University / PA-USA between 1999-2001. She started her academic career at the ITU Faculty of Architecture as a teaching/research assistant in 1992 and is continuing teaching, researching at that same institution since then.
Dr. Aksoy's research areas focus on computational design, generative systems, information technologies and their effects on architectural design theory, practice and education. In addition to her academic work, she has also been involved in a number of building designs including the ITU Dr. Sedat Üründül Nursery, İTÜ Research Center for Satellite communications and Remote Sensing, ITU Dr. Orhan Öcalgiray Molecular Biology and Genetics Research Center and the ITU Kindergarten. Dr. Aksoy has been actively teaching architectural design at the ITU Faculty of Architecture at undergraduate levels since 1991 and at graduate levels since 2004.

Meltem Baslo. Born in Oslo [Norway] in 1969. Graduate of Notre Dame de Sion, 1988. Bachelor's degree on Architecture, 1994, Mimar Sinan Fine Arts University. Master of Architecture degree, 1998, Mimar Sinan Fine Arts University. PhD, 2008, Istanbul Technical University.
Baslo became a research assistant at Istanbul Technical University in 2004. She took part in many campus projects' design and construction until 2011 within ITU Project Management Center. She is a member of Executive Board of ArchED [Association for Architectural Education] and she organizes ArchED Student Projects' Competition since 2009. She is also working at ITU Housing Research and Development Center as research assistant. Her research areas are Turkish Revolution and Modern Architecture in 1920s, Revolution Architecture, Housing and Modernism, 19th century Istanbul and eclecticism, Historical Mapping of Galata and Pera. She is currently teaching architectural design, visual communication and technical drawing for first year's students at ITU Faculty of Architecture.

From Representation to Simulation

The impacts of BIM on Architectural Design

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Synopsis

Building information modelling is an information delivery method that is made available for the use of architects and the other actors of the architecture, engineering and construction industry. In recent years, in many countries it became an obligatory project delivery mode for architects. As a result, prevailing use of this method alters the modes of notation and the logic of design in architectural offices. While architects used to employ representations of the design to communicate with other parties, with the BIM methods and software they are forced to create information models which can be regarded as simulations of a future building and are open to the control and revisions of other participants who are involved in building processes. Since it promotes a collaborative production and gathering whole information on a single model, it brings many opportunities such as increased reliability, foreseeing of costs and calculation of efficiency. However, by causing architects to change their accustomed ways of working, BIM also effects design approaches of architects and the nature of architecture. In this regard this paper aims to discover in which aspects BIM methods have impacts on architecture and alter the focus of architectural design especially in the designing processes at the architectural offices. The paper mainly depends on current literature and aims to analyse current conditions in relation with the old habits.

Key words: Architectural Design, Building Information Modelling, Architectural Notation, Representation, Simulation.

Building Information Modelling (BIM), which is defined as an architectural design model tied to a digital relational database, is regarded as the main tool that entails a profound change which can be conceived as a complete digitalization of all processes of the profession. As a relatively new and widespread mode of creating, delivering and managing the information that is associated with the various phases of a building life cycle such as design, construction and operation, it forces architects to change their modes of production. By doing so, it impacts on the nature of the profession.

One consequence of the widespread use of BIM methods in architecture is the ceasing role of drawing as a way of communication between architects and the other actors of design and construction. Although the digitalization in architecture industry has started long before BIM methods and software, transition of the design tools from manual drawing (pencil) to 2D/3D CAD were not regarded as a complete digitalization or a paradigm shift. BIM methods and technologies however, have the potential to change the logic of design. The main reason behind this is the arising of BIM technologies from a necessity to handle the complexity of the design and construction processes, as opposed to CAD software. CAD software and other ways of utilizing computers were architectural endeavours to explore the capabilities of the digital means to facilitate design. The outputs of these tools were mainly 2D or 3D geometric definitions. Charles Eastman claims that 2D CAD technologies were merely electronic equivalents of traditional paper documentation (Eastman et al. 2011). But, the object oriented, parametric and integrative mode of operation of the BIM helps to calculate and export any kind of necessary information for design improvement and real construction of the building. In ideal, BIM aims to achieve a digital twin of building to manage any phase of the design and construction processes. Through the means of BIM, instead of creating a variety of 2D reflections of the designed building, architects become able to create one or more accurate models, which also includes technical semantic information data in addition to geometric information, and can be represented in different forms of representation. This operation mode of BIM also answers a basic need in the architectural profession, which is to be able to make automated renovations across fragmented drawing sheets. While 2D and 3D CAD still are techniques to represent design, BIM simulates the building. Therefore, the use of BIM techniques corresponds a shift from drawing, which was the essential tool of the architect since Renaissance in Europe, to digital modelling. Drawing had paramount impact on formation of architecture as a profession. Likewise, information modelling replacing drawing will have its own affects.

In a digital environment where any information can be ascribed on the model, the simulated digital version of the building becomes testable in many aspects. Buildings are expected to perform against different tasks. By this way, performance becomes a prior criteria of design above many other aspects that a design is expected to satisfy. Crucially, the priorities and the focus of architectural design change. While programs, functions and tectonic were the key issues of architectural design, with the new techniques based on creating a digital self of a future building, the focus of design becomes performance, operation and a new understanding of tectonic.

Additionally, BIM methods as a digital information data storing-managing and

delivery method that promotes to integrate all information of a future building in a single environment, aims to increase consistency and reliability in construction. Due to the fact that the construction of a building involves various expertise, gathering all the necessary information for consistency requires collaborative work and different expert groups and stake holders to be included in the design process. Although collaborative production is a democratization utopia in design, since design is a unique, individual action in its modern definition, collectivity carries the risk of extermination the design itself by turning it into a common operation, as well. This also refers to the problematic of authorship, changing the position of the architect and changing the definition of architecture.

Inasmuch as BIM includes any information for construction and operation of an asset, besides design information, it causes a whole digitalization in design and manufacturing and alters the logic of these processes deeply. The digital revolution had organizational and social effects on the different industries of the world's economy. Architecture Engineering and Construction industry would be effected in a similar way to these industries which already underwent the transition. The role of the architect today was established in Renaissance as a man who does not participate the action of construction, but determines how the buildings should be built in a certain way. Before Renaissance the architects were master builders who knew how to build but never had the complete comprehension of a building. With the tool of drawing, architect had the remote but full control of the building. Although today this ascribed role of architects alters, for the reason that BIM promotes collaboration and integration of inter-disciplinary information, the architect of the era does not become a master building again like his pre-renaissance predecessors. The tool to create the information of design was a monopoly of architects during the modern times, however, with the power of digital simulation, many actors become able to participate in design from its very beginning. While the master builders of antiquity were exclusive makers and architect of modern era was a designer, due to the BIM providing an interactive digital platform for other actors to participate in digital construction of the future building, new architect becomes a participant or a role player like other agents, in a more complex organization of construction of a building. In conclusion, as summarized BIM would have various impacts on architecture. Within the scope of this work, it is aimed to inquiry these aspects and consequences of implications on profession.

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Biography

Funda Tan. PhD candidate at Istanbul Technical University, Architectural Design Program and a research assistant at Gebze Technical University, Faculty of Architecture. She received her master's degree from Istanbul Technical University, Architectural Design Program and her bachelor form Mimar Sinan University of Fine Arts, Department of Architecture. Previously, she has also worked at several architecture schools and she assisted and instructed architectural design studios and courses. She has spent 2016-2017 fall and spring terms at University of Lisbon, Faculty of Architecture as visiting researcher. Her main areas of interest consist architectural expressions, architectural notation, representation, simulation, impacts of architectural notation techniques on architecture. Currently, she has been working on her PhD thesis titled: "From representation to simulation; Impacts of BIM Methods on Architectural Practise".

Nurbin Paker. Associate Professor at Istanbul Technical University, Faculty of Architecture. She received her bachelor, master and Ph.D. degrees in ITU. She completed her PhD in 2001 with a thesis entitled "Interaction between Knowledge and Creativity in Architectural Design Education". She has been a visiting scholar at University of Newcastle upon Tyne, CARDO, UK in 1995-1996 and at University of Cincinnati, DAAP, USA between 1998-2000. She conducted undergraduate and graduate level architectural design studios. She also organized and participated in national and international workshops, exhibitions, conferences and research projects. Her research areas and interests are mostly focused on "architectural and environmental design", "design theory", "creativity in architectural design education". She has undertaken various architectural design projects, architectural design competition juries, received architectural design awards and has put some architectural applications into practice by herself and with some colleagues. She also has a National Architectural Award for Teknopark-Istanbul Headquarters Building in 2018.

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Special EURAU18 thanks to:

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